Mipox Corporation

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Accelerating expansion with a strategy of embedded growth and profit stability

Global No. 1 niche player in the ultra-precision polishing field

Established in 1925 as an importer of pigments and color foils, Mipox began manufacturing of color foils after WWII and, in the 1970s as a result of technical development based on its products, entered the field of precision polishing, which was indispensable for improving performance of magnetic media. Mipox responded to difficult challenges posed by customers and evolved to offer one-stop solutions, from development to polishing materials to that of polishing manufacturing equipment and processes. As a result, it achieved a competitive advantage in the ultra-precision polishing field and the global No. 1 position in ultra-polishing precision used in the final treatment process of hard disks and semiconductor wafers. However, heavy dependence on this field, a decrease in orders caused by shift in technology, and the financial crisis triggered by the Lehman Shock led Mipox to plunge into a crisis. Sales dropped from ¥8 billion in fiscal 2006 to ¥3 billion in fiscal 2008, and losses amounted to nearly ¥4 billion for three years in total.

Overcame the Lehman Shock crisis, reformed into a growth stage

At the rock bottom in 2008, 37-year-old Jun Watanabe, from the founding family, was appointed president. Under his strong leadership, Mipox undertook to (1) enter into general polishing businesses; (2) manage the company with emphasis placed on capacity utilization rates; (3) systematically capture client needs through service business; (4) utilize mobile/cloud-based client management and sales support tools; and (5) speedily make decisions through information sharing. The company then had a spectacular turnaround to be profitable in fiscal 2010 and to record four consecutive years of sales growth (8% p.a.) from fiscal 2011. In fiscal 2015, Mipox had an operating margin of 12%. It recorded operating profit of ¥0.5 billion, the same amount recorded in the past on sales of ¥8 billion, on half of that sales amount, ¥4.2 billion. The reform by use of cloud-based tools attracted great attention and President Watanabe received numerous invitations to speak about it. Since then, Mipox has gone further; it shifted into an aggressive stage. It acquired a competitor (Mipox Kyoto Corporation, or MKC at present) having around ¥400 million in sales which applied for court-mandated rehabilitation in December 2015 and Nihon Kenshi Co., that had ¥0.3 billion in sales but lost money due to a failed investment in China in July 2016. Nevertheless, it has advanced coating technology and strength in reflective materials. MKC has strong technological competence in glass beads coating, which is indispensable for reflective material technology, and Nihon Kenshi has advanced general coating technology, which is used in coating smartphone bodies, as well as interior and exterior painting, alloy surface polishing, and automotive engine parts (particularly for the Lexus).

Accelerate expansion with a strategy of embedded growth and profit stability

In fiscal 2016, sales are expected to increase to about ¥7 billion but operating income is forecast to decrease by 6% mainly due to M&A expenses. In the first quarter, ended June 30, weak sales of high-value added products, foreign exchange losses, and other factors resulted in recording net losses. Profits tend to fluctuate on a short-term basis. With regard to long-term corporate value, an important point is whether Mipox can undertake effective strategic measures based on the three inherent elements of the polishing industry: (1) co-existence of old and new technologies; (2) difference in optimal polishing technologies by material and application; and (3) yet unknown fundamental polishing principles. The company has built a corporate structure to utilize those three elements in achieving its competitive advantage and has embedded a way to achieve sustainable growth and stable profits (details from page 13). It is expected to achieve substantial profit growth and establish a stable profit structure if it can utilize its expanded technology, customer, and profit bases, improve operations of the acquired companies, and realize synergies. The global abrasive material market of about ¥400 billion is projected to grow by 6% per year. Assuming Mipox to achieve sales growth of 6% p.a. and an operating margin of about 10% (compare this to the forecast of 7% for the current fiscal year) over the next five years, Mipox is estimated to be fairly valued at a PBR of 1.3 times and PER of 19.8 times, suggesting the stock price of ¥587. Given its long-term growth potential, this seems to be an acceptable level in J Phoenix Research's view.

Basic report

J-Phoenix Research Inc.

Osamu Miyashita, CFA

Basic corporate data	
Location	Tachikawa City, Tokyo
Representative	Jun Watanabe
Established	November 1925
Capital	¥1,998mn
Listed	February 2001
URL	www.mipox.co.jp
Industry sector	grinding stone, abrasives
Employees	242
Share information as of September. 14, 2016	
Stock price	¥273
52-week high	¥465
52-week low	¥250
Shares outstanding	10,696,320
Trading unit	100
Market cap	¥2,920mn
DPS (est.)	¥10
EPS (est.)	¥29.62
PER (est.)	9.21
BPS (actual)	¥451.08
PBR	0.60

* EPS, PER, BPS, and PBR are based on the number of shares outstanding, excluding

Fiscal Item	Sales ¥mn	YoY%	Operating income ¥mn	YoY%	Ordinary income ¥mn	YoY%	Net Income ¥mn	YoY%	EPS ¥	Term-end closing share price ¥	
										High	Low
March 2014	3,760	10.3	267	-2.7	300	-0.2	230	49.0	23.41	480	208
March 2015	3,985	6.0	367	38.1	546	82.1	508	121.3	51.43	445	167
March 2016	4,204	5.5	508	37.3	513	-6.1	323	-36.4	31.79	628	268
1Q ended June 2016	1,046	-7.0	7	-95.7	-59	-129.2	-67	-138.8	-6.56	450	268
2Q ended Sep 2016 Est	2,978	30.6	93	-73.5	75	-83.0	28	-92.4	2.78	-	-
March 2017 Est.	6,831	62.4	479	-5.7	432	-15.9	302	-6.5	29.62	-	-

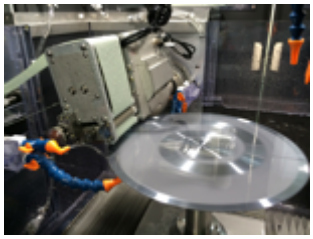
History and Corporate Profile

History and Corporate Profile

Founded in 1925 and succeeded in developing polishing films in 1970

Polishing films

Polishing slurry



Polishing equipment

Major applications

Hard disks

Fiber optics

Semiconductors

Automobiles

■ **Mipox, founded in 1925, has evolved together with advances in coating, slitting, and abrasive technology, with ultra-grain coating techniques as its core**

Founded in 1925 as a German-Japanese partnership to import pigments and color foils, Mipox eventually expanded into foil manufacturing. Its turning point arrived in the 1970s when it succeeded in developing polishing films by use of the foil-coating technology and entered the precision polishing field, seeing business opportunities in rising demand for precision polishing films in line with diffusion of floppy disks and other recording media. Precision polishing films are used to coat fine abrasive grain on the film, and then precisely slit and polish it. On the back of strength in dispersion and coating techniques accumulated in manufacturing of color foils, its polishing film business expanded rapidly. By emphasizing responsiveness to difficult tasks as its core competence, Mipox has established an organization that offers one-stop services, including development of manufacturing and inspection equipment and proposal of polishing processes, in addition to supplying users with diverse polishing materials. By enhancing its polishing know-how in accordance with density growth of recording media, Mipox has achieved a competitive advantage in the ultra-precision abrasive market, in which the surface of materials is controlled at the atomic level of1/10 billion millimeter. In certain finishing process of hard disks and semiconductor wafers, the company attained the global No. 1 position.

1925	Founded as “German Pigment Partnership,” a subsidiary of a German trading company, in central Tokyo. Began import and sales of printing ink, pigments, gold foils, etc. Managed by a German.
1941	Re-established as German Pigment Co., Ltd. with ¥100,000 in capital. Managed by the Watanabe Family.
1961	Constructed a plant having a foil machine in Akishima City, Tokyo.
1963	Succeeded in developing color foils, using polypropylene films
1970	Developed polishing films and started manufacturing and sales of them.
1986	Relocated head office to Akishima City, Tokyo.
1989	Sold the Foil Business Division, to focus on polishing film business. Established MIPOX International Corporation in California.
1997	Established MIPOX Malaysia Sdn. Bhd.
2001	Listed on the OTC market (present TSE JASDAQ) Opened a representative office in Shanghai.
2004	Established a Taiwan branch of Nippon Micro Coating Co., Ltd. in Hsinchu City, Taiwan.
2007	Established MIPOX Singapore Pte. Ltd.
2012	Established MIPOX Abrasives India Pvt. Ltd. in Bangalore.
2013	Changed a corporate name to Mipox Corporation. Relocated head office to Tachikawa City, Tokyo.
2015	Established Mipox Kyoto Corporation (now a consolidated subsidiary) in Uji City, Kyoto.
2016	Nihon Kenshi Co., Ltd. became a subsidiary

Corporate name	Mipox Corporation
Securities code	5381
Main features	Manufacturing and coating of foils and polishing films. Have a wide range of polishing products including slurries and peripheral equipment. Mainly exposed to IT and automobiles. The global No. 1 in polishing films of hard disks. Overseas sales： over 70% of total sales.
Sector	Grindstones and polishing materials
Representative	Jun Watanabe, President & CEO
Address	6F, Faret East Building, 2-34-7 Akebono-cho, Tachikawa City, Tokyo, 190-0012 Japan
URL	http://www.mipox.co.jp/
Established	December 12, 1941
Listed	February 21, 2001
Listing	Tokyo Stock Exchange JASDAQ (Standard)
Capital	¥1,999 million (Fiscal 2015)
Main bank	Mizuho Bank, Ltd.
Number of employees	242 (Fiscal 2015, consolidated)

Reform and growth strategy led by President Watanabe's strong leadership

Recovered from the crisis driven by a drop in orders for main products and the Lehman Shock. President Watanabe led an aggressive strategy and promoted M&A

■ Management reform led by President Jun Watanabe, appointed in 2008 after the crisis

While Mipox was making a success in the ultra-precision abrasive market, the company relied heavily on a certain sector. Its sales tumbled from ¥8 billion in fiscal 2006 to ¥3 billion in fiscal 2008 due to a decrease in orders stemming from a technological change and the financial crisis triggered by the Lehman Shock. Then in 2008, Jun Watanabe of the founding family became President and CEO. He was 37 years old. Under his strong leadership, Mipox undertook the tasks of (1) entering into general polishing businesses; (2) managing with emphasis on capacity utilization rates; (3) systematically capturing client needs through selling services to them; (4) thoroughly developing IT infrastructure so as to use mobile/cloud-based client management and sales support tools (such as "Salesforce"); and (5) raising speed in decision-making by information sharing. Mipox then had a spectacular turnaround. It became profitable in fiscal 2010 and recorded four consecutive years of sales growth (8% p.a.) from fiscal 2011.

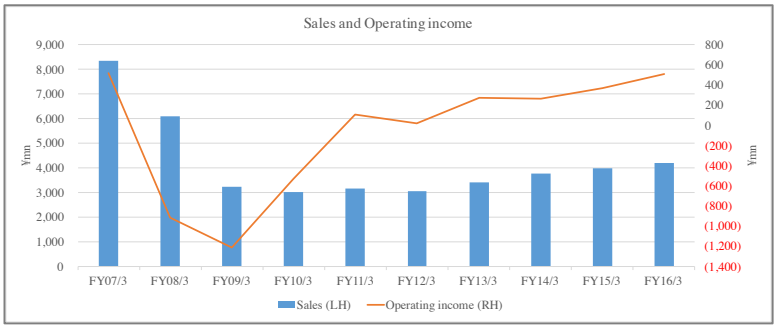
President Jun Watanabe

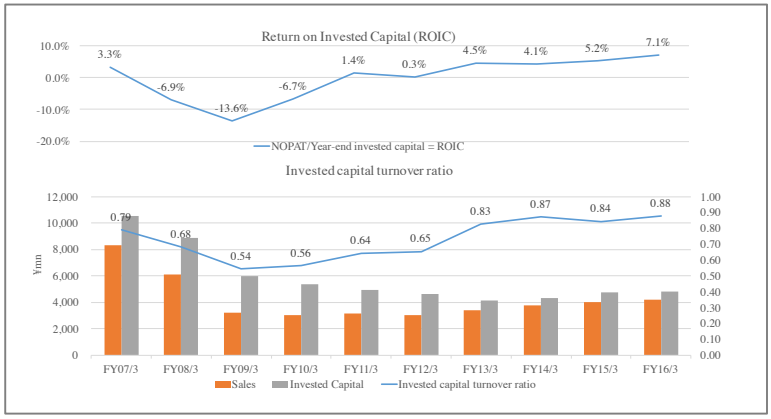
Record-high operating income of ¥0.5 billion, once recorded on sales of ¥8 billion, was achieved on sales of ¥4.2 billion in fiscal 2015. Operating margin improved from less than 1% to 12%.

ROIC improved from negative to positive 7%, and the turnover ratio, from 0.54 times to 0.88 times.

■ Financial achievement led by the management reform

Management reforms thus resulted in turning profitable in fiscal 2010 and a record of four consecutive years of sales growth (8% p.a.) from fiscal 2011. In fiscal 2015, Mipox had an operating margin of 12%. It recorded operating income of ¥0.5 billion, the same amount as recorded before the Lehman Shock in 2008, with sales of ¥4.2 billion, a half of sales of ¥8.0 billion back then. Since Jun Watanabe became President and CEO, the asset turnover ratio improved from 0.5 times to 0.9 times and the ROIC[1] from less than 1% to 7%.





Mipox further advanced to an aggressive stage. It acquired a competitor having around ¥0.4 billion in sales, which applied for court-mandated rehabilitation but had an advanced coating technology and strength in reflective materials. The acquired company was renamed Mipox Kyoto Corporation. In July 2016 Mipox also acquired Nihon Kenshi Co., Ltd. by a takeover bid. Nihon Kenshi had advanced general coating technology with sales of around ¥3 billion but suffered from significant losses due to a failed investment in China. These acquisitions have contributed to Mipox' expanding the scope of sales and breadth of products, and outgrowing its reliance on specific products.

Global network

Tachikawa head office, Tokyo

Yamanashi Plant

Malaysia Plant

Shanghai Plant

■ Expanded footprint: 2 subsidiaries at home; branches in 9 countries

While two subsidiaries were acquired in Japan in the last 12 months, as stated above, overseas expansion began much earlier, in 1989. Among 14 branches in nine countries, more than half was established in and after 2011, when President Watanabe began the management reforms. Overseas customers total more than 4,000. Based on the view that local staff is essential to meet local needs, locally-hired staff represent 90% or more of overseas employees and are in charge of management.

Mipox has been promoting globalization widely relative to its scope of sales. As President Watanabe is fluent in English, having an educational background in the USA, with added help from high confidence in Japanese polishing materials, its globalization is likely to accelerate. In Southeast Asia, the Singapore Office plays a regional headquarters role, as a part of Mipox strategy to “to fit locally” in pursuit of local needs.

Mipox Corporation

Headquarters:	Tachikawa City, Tokyo
Satellite Office:	Chiyoda Ward, Tokyo
Yamanashi Plant:	Hokuto City, Yamanashi

Domestic subsidiaries

Acquired in December 2015

Mipox Kyoto Corporation

Headquarters:	Uji City, Kyoto

Acquired in July 2016

Nihon Kenshi Co., Ltd.

Head Office / Osaka Office:	Nishi Ward, Osaka City
Fukuyama Plant / Office:	Fukuyama City, Hiroshima
Tokyo Office:	Shinagawa Ward, Tokyo
Hamamatsu Office:	Hamamatsu City, Shizuoka
Nagoya Office:	Higashi-ku, Nagoya City, Aichi
Takamatsu Office:	Takamatsu City, Kagawa
Kyushu Office:	Kitakyushu City, Fukuoka

Overseas offices & subsidiaries

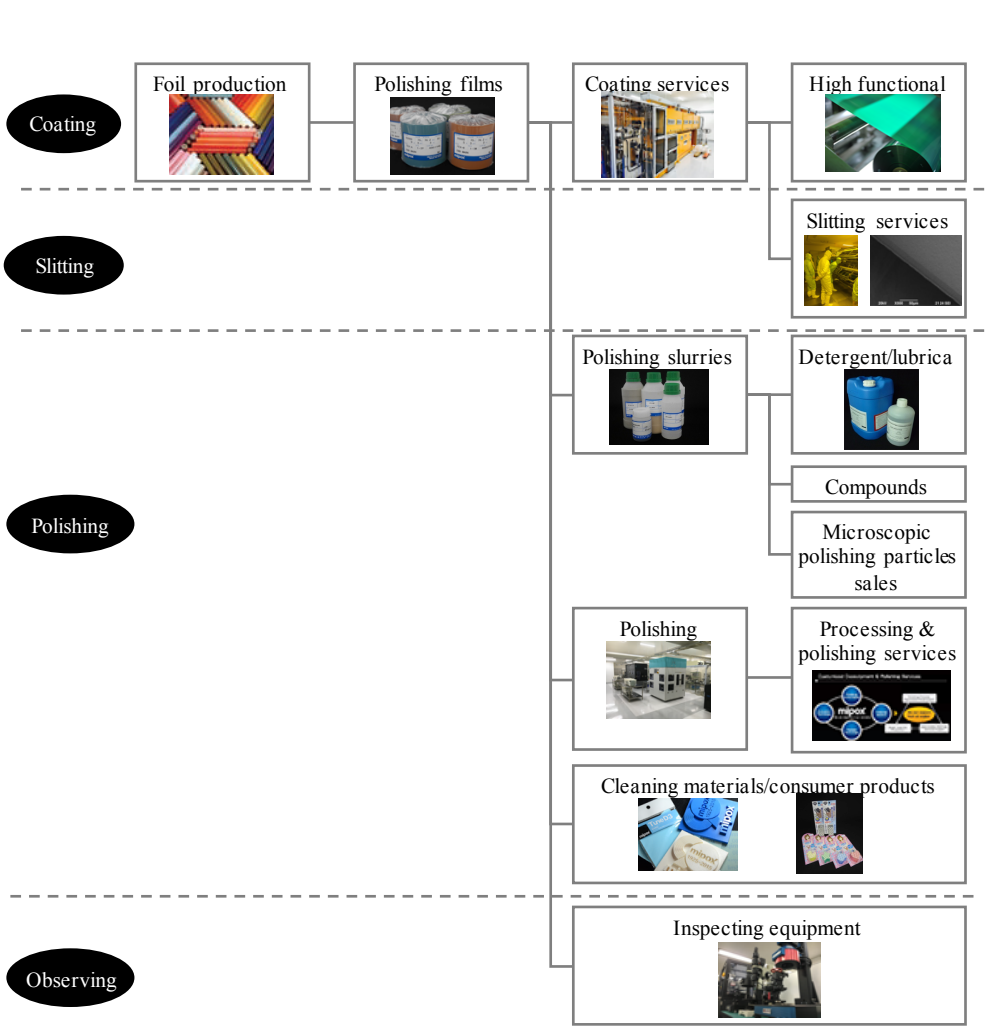
1989:	California, USA
1997:	Subsidiary / plant in Malaysia*
2003:	Subsidiary / plant in Shanghai*
2005:	Shenzhen Branch of the China subsidiary
2007:	Subsidiary in Singapore
2011:	● Wuhan Branch of the China subsidiary
2012:	● Subsidiary in India
2012:	● Sales subsidiary in Shanghai, China
2013:	● Representative office in the Philippines
2013:	● Representative office in Thailand
2014:	● Representative office in Taiwan

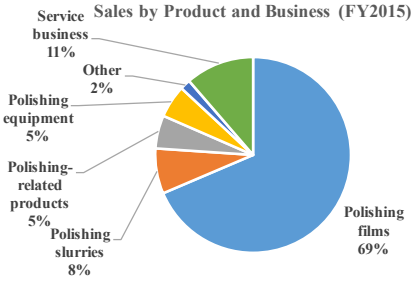
* Engaged in the product business and the service business. Other subsidiaries do only the product business.
● Subsidiaries and offices that were established after the appointment of President Watanabe.

Core technologies and business evolution

■ Business evolution started from foil production

Mipox business evolution is described in the graph below. By expanding applications from foil production, the company's business has evolved, centering around coating, slitting, and abrasive technologies. The company has recently expanded its inspection equipment product line as the degree of polishing precision of some of their products had become too high to be tested by the inspection equipment available in the market. As a result, "observing" has been added to Mipox core technologies. In terms of sales, polishing films, its global No. 1 product, generated ¥3.3 billion and accounted for 85% of total sales of ¥4.2 billion in fiscal 2015. Polishing films also showed the highest growth rate over the past three years.





(¥million)

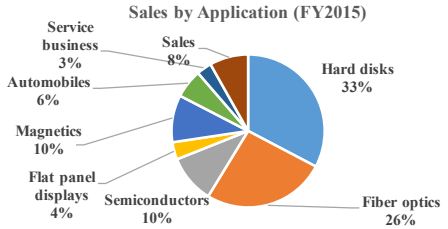
	FY2012	FY2013	FY2014	FY2015	Average growth rate/ year
Polishing films	1,867	2,221	2,905	3,348	21.5%
Polishing slurries	355	365	351	258	-10.1%
Polishing-related products	427	267	166	110	-36.4%
Polishing equipment	86	263	108	150	20.4%
Other	81	84	74	64	-7.6%
Service business	591	554	379	274	-22.6%
Total	3,407	3,754	3,985	4,204	7.3%

Sales breakdown by application

■ Matrix by product and application

The table below shows relationships of products with applications. The sales breakdown for fiscal 2015 shows that hard disks accounted for 33% of total sales and fiber optics for 26%. Together they represent roughly 60% of sales. With regard to sales growth rate of the past three years, application for automobiles recorded the highest growth rate of 30% per year. Mipox has had high exposure to electronics components and IT-related areas but is now enhancing sales for automobiles in pursuit of business diversification. The efforts appear to have steadily shown results. As automobiles become more IT-oriented and more energy-efficient, the requirements of the auto makers for precision polishing is expected to increase.

(¥ million)	Polishing films	Polishing slurries	Polishing-related products	Polishing equipment, etc.	Functional films	Sales
Hard disks	●	●	●	●		1,374
Fiber optics	●	●				1,093
Semiconductors	●	●	●	●		430
Flat panel displays	●	●		●		154
Magnetics	●	●				133
Automobiles	●			●		419
Service business					●	255
Total Sales	3,348	258	110	150	274	



(¥million)

	FY2012	FY2013	FY2014	FY2015	Average growth rate/ year
Hard disks	1,142	1,130	1,353	1,374	6.4%
Fiber optics	631	792	1,005	1,093	20.1%
Semiconductors	312	492	355	430	11.3%
Flat panel displays	141	162	163	154	3.0%
Automobiles	192	239	366	419	29.7%
Service business	544	517	350	255	-22.3%
Magnetics	122	118	103	133	2.9%
Others	321	307	287	343	2.2%

Hidden IoT stock

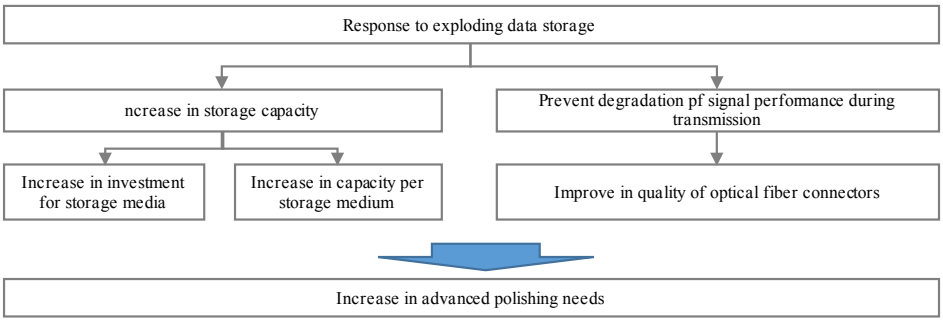
Fiber optic connectors

Data centers

Polishing films for connector finishing

■Response to exploding data storage

One of the reasons behind the advance into more compact, higher-capacity hard disks is an increase in the storage density, which was realized by a shift from conventional aluminum substrates to glass substrates, which had been difficult to manufacture. Mipox technology has supported this shift with its success in directly texturing glass substrate on magnetic disks, by using fine-grain diamonds at the level of angstrom (0.1 nanometer or 10^{-9} mm). Its slurry technology for texturing by use of fine-grain diamonds has become a global standard in this field. In addition, its ultra-precision abrasive technology is used to prevent degradation of signal performance of optical fiber connectors. On the back of capacity expansion of storage media, Mipox technology is expected to continue playing an increasingly important its role as storage demand increases in the IoT era.



Technological advance into the 3D printing design field

High-precision abrasive technology raises aesthetic and product value

■ Application of “polishing” technology

A 3D printer makes a solid object by stacking layers that are consecutively printed flat as cross sections. This stack-up printing method, however, results in visible traces. Mipox printers remove the traces and make the mirror-like smooth surfaces (see below).

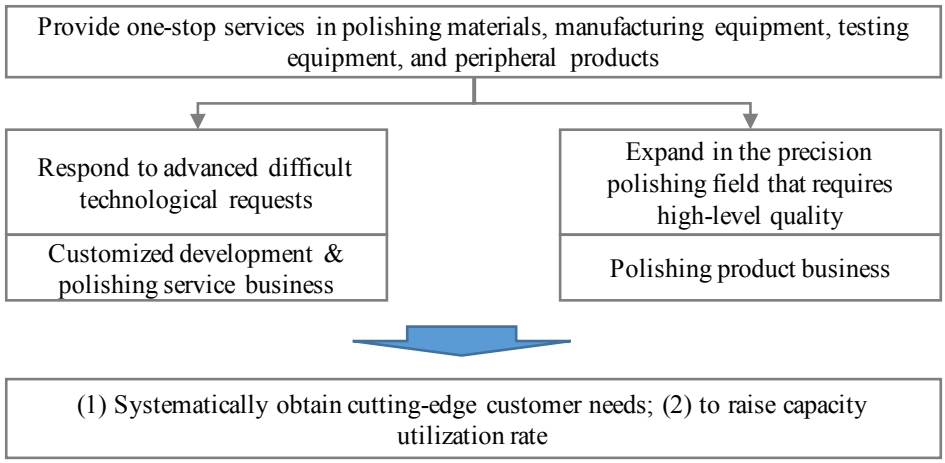
In April 2016, the highly acclaimed Japanese design firm “*nendo*” (founded by Mr. Oki Sato) exhibited at the annual Salone del Mobile Milan, one of the biggest fairs in the world for the interior design business. For the production process for its “50 Manga Chairs” (see below), *nendo* used Mipox high-precision abrasive technology to create a mirror surface. This nano-level technology thereby satisfied a very high level of technical demand. As such, Mipox technology has promise for adoption in various applications, areas, and markets. In 2015, a road bike formed by 3D printing and exhibited at the Salone del Mobile Milan was polished by Mipox technology.

Significance of service business

■ **“Customized development & polishing services” and its strategic significance**

Mipox is also engaged in polishing consulting services using its process technology, believed to be the highest level currently available. It develops polishing materials and appropriate polishing processes that match customer specifications. The “observable” polishing lab is located within the head office building in Tachikawa, Tokyo. In the lab, Mipox engineers use the object brought in by a customer and propose appropriate polishing process within the same day. The company receives numerous inquiries from Japan and overseas.

Working in the service business field has two strategically important implications for Mipox: (1) to raise capacity utilization rates by using the same equipment as in the product business; and (2) to monitor leading-edge customer needs. Mipox is the only major company anywhere known to be active in both manufacturing and services. This strategy is possible because the company has worked in the manufacturing and inspection equipment area in addition to polishing materials and has know-how for making one-stop proposals that solve challenging requirements of customers. Therefore, this versatility would be difficult for other companies to copy.

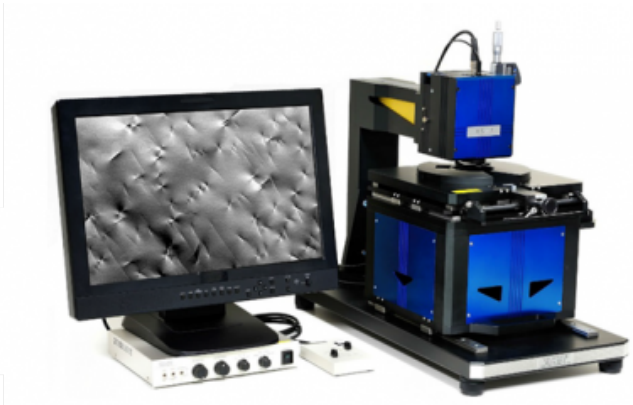


Latest “observing” technology

Developed the equipment that enables to observe flaws at an atomic level with visible light

■ **Advanced inspection technology that enables the level of inspection that was said to be impossible with visible light**

In July 2016 Mipox announced it had developed equipment that visualizes flaws in crystals and internal distortion of SiC (silicon carbide) wafers, in real time in a highly sensitive manner. Conventionally, observing flaws at an atomic level by an optical microscope with visible light was considered to be impossible. However, Mipox has successfully done this by using an arithmetic processing technique it devised. Large-sized inspection equipment had been needed for methods other than using visible light but Mipox was able to significantly downsize the equipment. This demonstrates its noteworthy development capability in the area of “observing” technology.

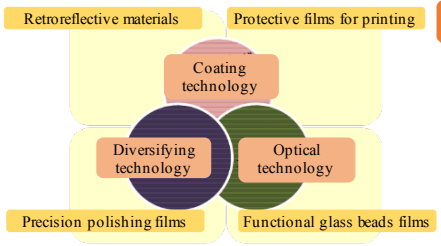


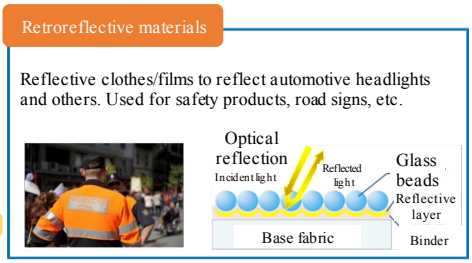
Acquired business
Mipox Kyoto

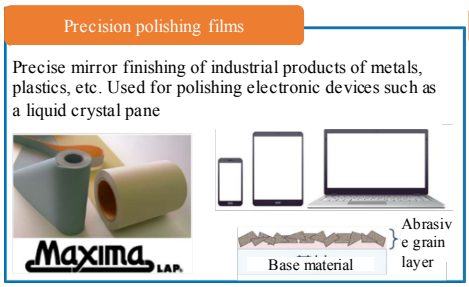
Strong in precision polishing. Its technology can further enhance Mipox' abrasive field.

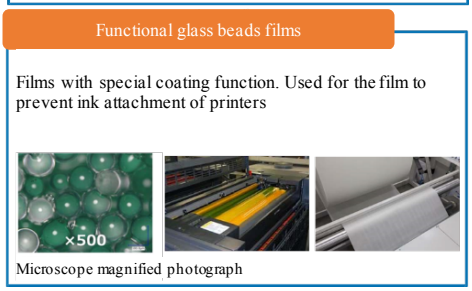
■ Mipox Kyoto Corporation

In December 2015, Mipox acquired business from two companies, Ref-lite and Nihon REF-LITE Industry Co., which applied for court-mandated rehabilitation. Their business of ¥0.4 billion in sales in fiscal 2014 was acquired by Mipox' newly-established fully-owned subsidiary, which was renamed Mipox Kyoto Corporation (MKC). The acquired business includes coating, diversifying, and optical technologies, used in safety, optical, and printing applications. Main products include luminous reflective materials, protective films for printing, precision polishing materials, and functional film materials.









Ref-lite and Nihon REF-LITE filed for court-mandated rehabilitation mainly due to competition with products made in China and a decrease in sales caused by higher material costs. MKC will seek to revitalize the acquired business under the management of Mipox. MKC' strength in thin-film coating-related technology may generate synergies with Mipox. While the facilities of both companies are similar, MKC's product line is quite different from that of Mipox, and synergies can be possible with more product diversity and cross-sales to mutual customers. Moreover, the acquisition is positive in terms of business continuity planning (BCP) as MKC has brought to Mipox its first plant in West Japan, adding to existing plants in East Japan.

Acquired business
Nihon Kenshi

■ **Nihon Kenshi Co. – Strong brand in the general polishing market**

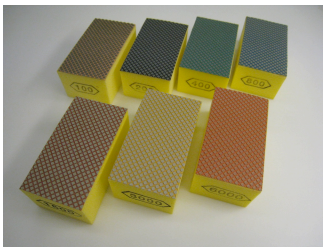
Nihon Kenshi, founded in 1932 and listed in the Second Section of the Tokyo Stock Exchange in 1961, is a major manufacturer of coated abrasives with sales of around ¥3.2 billion. Mainly due to a decrease in orders and impairment loss caused by a low capacity utilization rate in its plants in China, the company recorded losses for consecutive years from fiscal 2012 (ended on December 31) and asked Mipox for support. It therefore made a takeover bid for Nihon Kenshi and used a third-party allotment of its shares worth about ¥0.3 billion to the bidder to make it a subsidiary in July 2016 by investing ¥1.3 billion in total.

Potential synergies and risks are examined in the table below. The most critical synergy depends on whether sales of Nihon Kenshi products with strength in general polishing can grow via Mipox sales channels. Various in-house activities, as disclosed on Facebook pages of Mipox, demonstrate that Mipox and Nihon Kenshi are now linked via "salesforce," a cloud-based customer development and sales support tool. Synergy effects have already been rapidly emerging in all areas of sales, engineering, manufacturing and administration, although only two months have passed since the acquisition. Employees of both companies are interacting and so far, risks such as problems caused by differences in corporate culture have not occurred (more below).

Factors	Nihon Kenshi	Mipox	Synergy potential	Risks
Technological strength	General polishing	Precision polishing (General polishing is under development)	Enhance product line-up	Problems caused by differences in corporate culture
Customer base	Woodworking, steel, automobiles, electricals	Electronic components, IT, automobiles	Cross-selling; enhance customer negotiation power	
Sales power	Route sales	Respond to difficult requests by customers Advanced know-how acquired from service business	Enhance capacity to respond to needs of clients of Nihon Kenshi	
Global development	Mainly in Japan	60% overseas	Expand overseas sales channel for Nihon Kenshi's products	Foreign exchange risk
Manufacturing base	Fukuyama City, Hiroshima China	Yamanashi China Malaysia	Enhance the BCP capacity	Risk of impairment risk related to Nihon Kenshi
Management know-how	Maintain relations with customers in diverse industries	Improve pricing competitiveness and development capacity; promote cycles; use cloud-based customer development and sales support tools	Improve pricing competitiveness and development capacity of Nihon Kenshi Sales of products of Mipox to diverse industries Improve operation efficiency and customer development capacity by use of cloud-based customer development and sales support tools	Problems caused by differences in corporate culture

Dramatic expansion of customer base

Nihon Kenshi's products



■ Customer list shows blue chip companies in diverse industries

Applications of Nihon Kenshi polishing products are diverse, including woodworking, musical instruments, plastics, coating, aircraft, vehicle repair, automakers' painting line (body line), construction machinery, electrical appliances, machine tools, switchboards, metals, and others. One can say that these polishing products provide important support to Japan's manufacturers. Mipox, up to now, has highly depended on the electronic component industry, but the addition of Nihon Kenshi to the Group will enable Mipox to expand its customer base to the entire industrial field.

Nihon Kenshi's Customer List

IHI
Asahi Kasei
Araya Industry
Isuzu Motors
Eidai
Kawai Musical Instruments Mfg.
Kawasaki Heavy Industries
Kyocera .
Kinki Sharyo
Kubota .
Cleanup .
Coors Tek KK
Kurimoto
Kobe Steel
Komatsu
Sunwave .
Sanyo Electric
JX Nippon Mining & Metals .
JFE Steel .
JVC Kenwood
Suzuki
Nippon Steel & Sumitomo Metal .
Nippon Steel & Sumikin SG Wire
Sumitomo Rubber Industries
Sumitomo Heavy Industries
Sumitomo Electric Industries
Sekistone
Central Glass
Japan Transport Engineering
Daido Steel
Daihatsu Motor
Takaoka Electric Mfg.
TPR
Toshiba
TOTO
Toyota Motor
Toyota Industries
Toyota Auto Body
Nasluck
Nissan Motor
Nissan Shatai
Nisshin Steel
Nippon Sheet Glass
Nippon Metal Industry
Nippon Sharyo
NSK
Japan Steel Works
Nippon Electric Glass
Panasonic
Hitachi Metals
Hitachi Koki
Hitachi
Hitachi Zosen
Hino Motors
Fuji Heavy Industries
Press Kogyo
Honda Motor
Mazda Motor
Maruichi Steel Tube
Mitsubishi Heavy Industries
Mitsubishi Electric
Mory Industries
Yamaha
Yamaha Motor
LIXIL
Ryobi
(In the Japanese syllabary order)

Nihon Kenshi's Market: from Musical Instruments to Aircraft

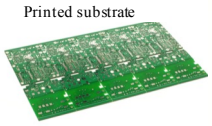

Vehicle painting line


Water faucet fittings


Musical instruments

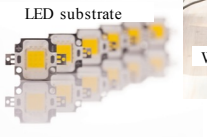

Steel tubes & pipes


Vehicle repair


Printed substrate


Construction machinery


Aircraft


LED substrate

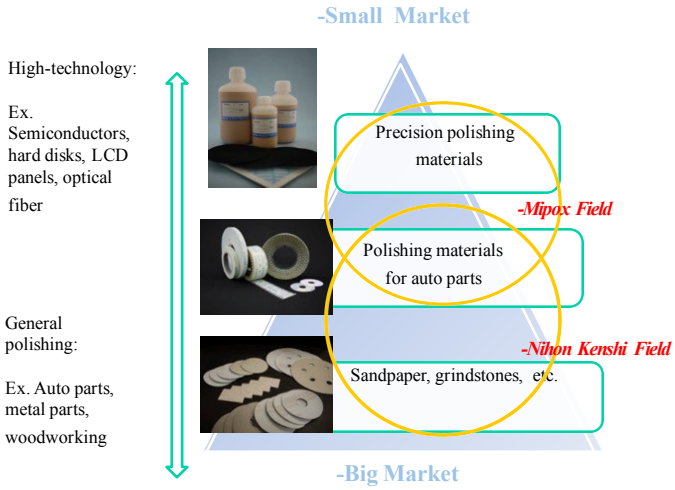

Woodwork / furniture


Shipbuilding

History and Corporate Profile

■ **Significance of acquisition on business portfolio**

The combined business portfolio of Mipox and Nihon Kenshi is strong and broadly-based. From the viewpoint of having a high-quality product line-up, this must be one of the strongest portfolio in the world.



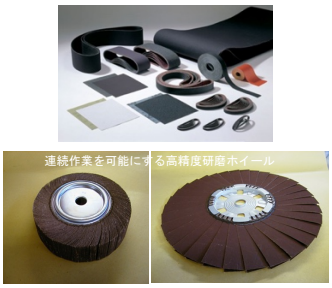
Nihon Kenshi's Major Products and Applications

Abrasive paper

Abrasive paper is indispensable for painting surface preparation. Paper is used for metal and hard woodworking surface polishing

Cloth products

Used for deburring, plain surface polishing, gloss polishing, and rust removal of metals including non-ferrous metals

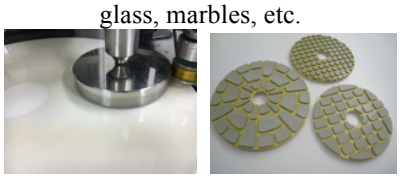
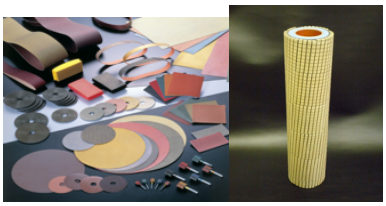


Non-woven polishing forms

Attached to a disk sander and used for removing previous coating and rust, polishing metal surface, etc.


Fine diamond abrasive cloth & super pellets

Flexible abrasive materials. Used for surface finishing and coating of ceramics, alloys, gems, quartz and special glass, marbles, etc.

Mipox' strategy and growth scenario

Core strategy

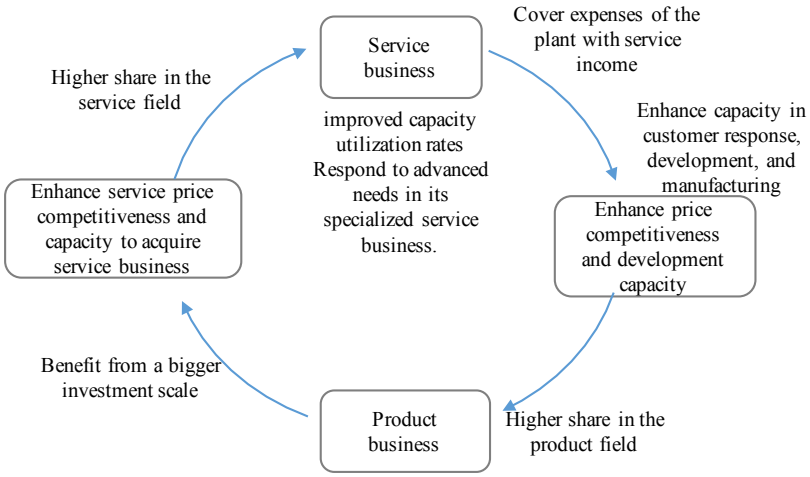
Double cycle to enhance price competitiveness and development capacity, which start from the difficult-to-copy service business

Global general polishing will be a source of growth.

■ Simple yet difficult-to-copy strategy

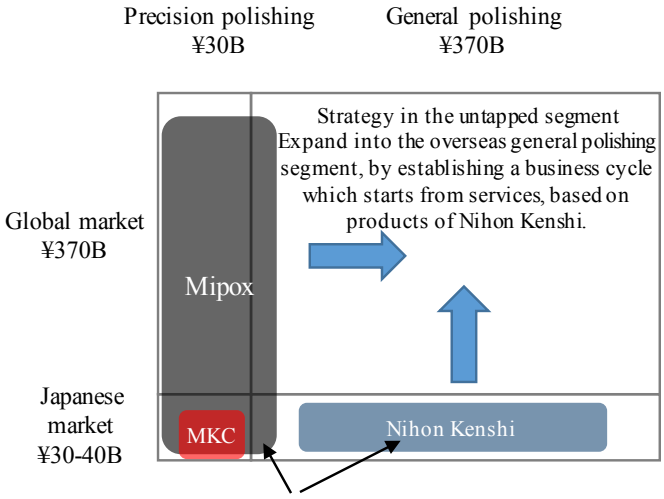
Mipox strategy cycle is diagrammed below, as explained in the above text. Based on the high-quality "coating," "slitting," "polishing," and "observing" technologies for leading-edge and new abrasive needs, Mipox is promoting a sustainable corporate value enhancing cycle by combining the service business with the manufacturing business and enhancing (1) price competitiveness with improved capacity utilization rates and (2) the development capacity to respond to advanced needs in its specialized service business.

Cycle to enhance price competitiveness and development capacity, which starts from the service business



Premise for the cycle: The same members and the same equipment are indispensable for the cycle to function effectively.
Improved capacity utilization rates are the management priority

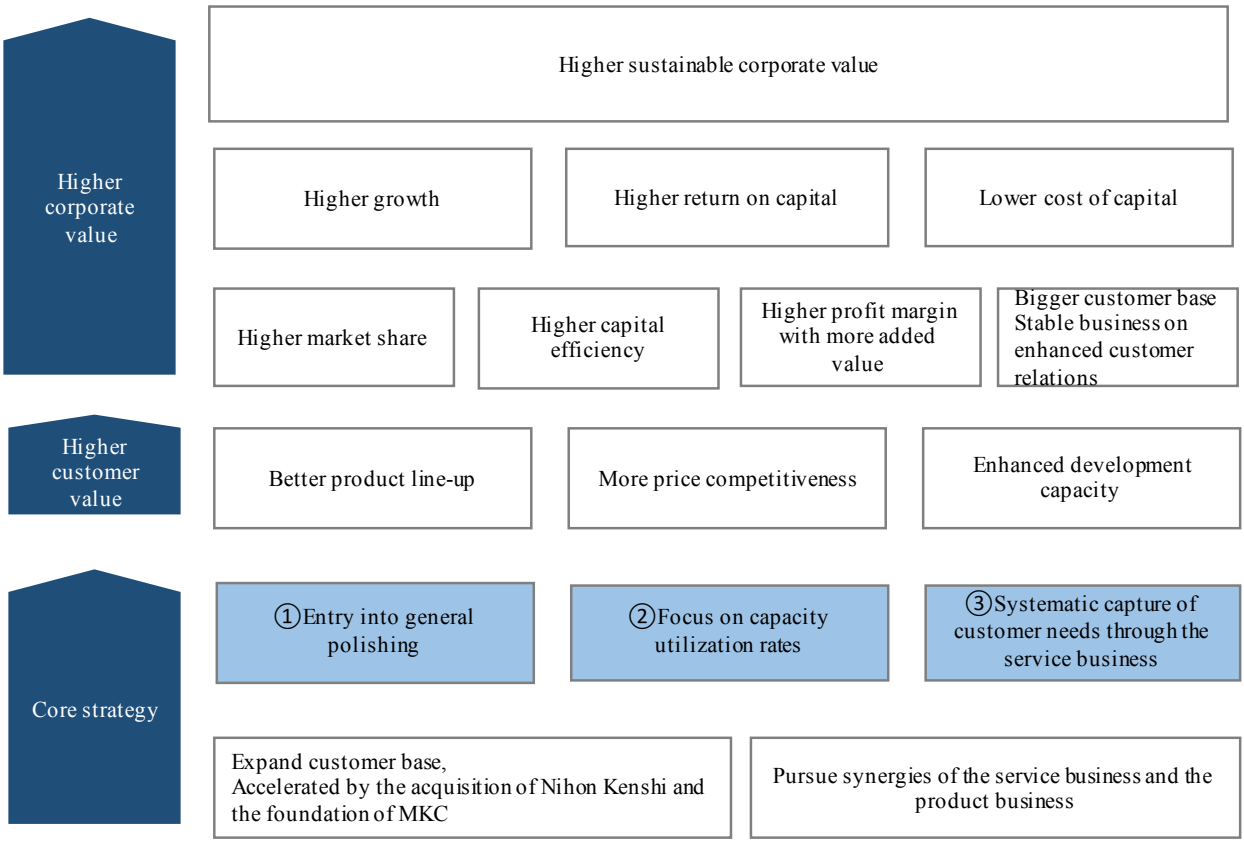
In the global abrasive industry, no other company is engaged in both the product and service businesses. As Mipox follows this cycle and continues to accumulate know-how for new challenges, its competitive advantages can be maintained indefinitely. As MKC and Nihon Kenshi also acquire this know-how, the Mipox Group can grow in the untapped overseas general abrasive market in addition to raising shares in existing markets.



Strategy in the existing market Seek for raising shares by maintain the cycle which starts from services

(1) Entry into the general abrasive market, (2) focus on capacity utilization rates, and (3) systematic capture of customer needs through the service business. This will enable Mipox to realize higher price competitiveness and development capacity, and seek higher shares and profitability.	In summary, Mipox strategy is (1) to enter into the general abrasive market, (2) to focus on capacity utilization rates, and (3) systematically learn of and satisfy customer needs through the service business. The ultimate causal link of this to raising corporate value path is described in the diagram below. Systematic incorporation of measures to consistent, sustainable creation of corporate value can be highly evaluated.

Mipox' Core Strategy and Matrix to Raise Corporate Value



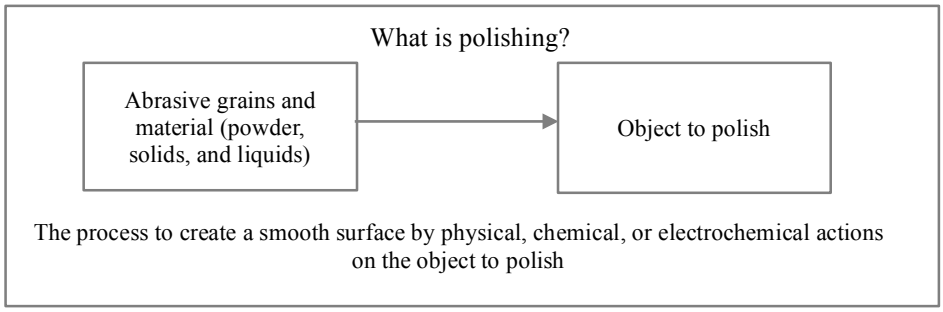
Abrasive industry's competitive factors and Mipox core strategy's effectiveness

What is polishing?

Polishing is the process of creating a smooth surface by repeatedly rubbing a surface of the object

■ Polishing process[1] is indispensable in manufacturing

In evaluating Mipox core strategy, it is important to understand technical aspects of factors that affect competition in the polishing industry. Polishing is the process of creating a smooth and shiny surface by rubbing a surface repeatedly. Physical, chemical, or electrochemical action is performed on the object to be polished by use of abrasive grains, which are harder than the object, to create a smooth surface. Abrasive grains can be utilized in different forms, depending on the application required: powder forms, liquid forms (polishing liquid, slurries), or an abrasive fixed to a backing material such as stone, cloth, or paper (grindstones, polishing cloth, sandpaper). Polishing materials in general refer to abrasive grains, liquid that contains grains, and coated grains fixed to a surface. Pads used to rub polishing liquid on the object, and polishing equipment, are also important factors.



Polishing, despite being an ancient technology, has added value and has been increasingly in need.

Surface treatment by polishing can raise the aesthetic and industrial value of the object. Polishing a surface of the material with precision is critically important to raise the quality and performance of products such as certain electronic components, storage media, and fiber optics. It also improves visual appearance and plays a role in differentiating consumer products. Major smartphone manufacturers have realized beautiful appearance of their phones by polishing them with products of Nihon Kenshi, acquired by Mipox. Such improved polishing technology is essential in realizing value-added high-performance products. Although polishing is a traditional technology, it will become even more important in the future. The abrasive market is around ¥400 billion globally and ¥30-40 billion in Japan. Its element technology is described in the following table.

Element technology	Details
Grain manufacturing	Grind hard grains (such as diamond) according to applications
Slurrying	Mix abrasive grains in the liquid that is appropriate in function, material, and abrasive precision
Coating	Fix coated abrasive grains on cloth, paper, and other solid materials (coating)
Slitting	Slit abrasives fixed with abrasive grains in appropriate forms (slitting)
Polishing	Polish by using abrasives and develop appropriate polishing equipment (polishing)
Inspection	Inspect whether the polishing status is as desired (observing)

Mipox identifies the “coating, slitting, and polishing“ element technologies as important core technologies. As mentioned above, “observing” is also becoming an important core technology more recently, since some of Mipox high-precision polishing projects can be tested only by observations using its own testing equipment.

Three defining facts of the abrasive industry’s competitive landscape

■ **Three defining facts of the abrasive industry’s competitive landscape**

As prerequisites in thinking about the abrasive industry’s competition, there are three unique elements.

Three defining facts of the abrasive industry

1) Co-existence of old and new technologies
2) Diverse optimal polishing technologies by material and application
3) Yet unknown fundamental polishing principle

As long as the materials using the old technology prevail, the old technology tends not be replaced by a new one.

The first fact is that technology from long ago continues to survive as long as its application prevails. New abrasive technologies are developed in pursuit of higher added value but old technologies are retained in use as long as there are applications and accompanying materials. Since the old technology continues to be valid and used, this industry has many companies from the pre-war period, including Mipox.

The hardest diamond cannot appropriately polish everything.

The second fact stems from the fact that not all the materials can be polished by the hardest grains, because of the nature of physical or chemical actions of polishing. For example, diamond is the hardest material but cannot be used for polishing of iron due to occurrence of chemical action that is difficult to control during polishing. As physical, chemical, and electrochemical actions are interlinked in a complex manner in polishing, optimal polishing process and technologies differs by application or by material.

Despite the ancient technology, the principle of polishing is not yet fully recognized in today’s science.

Before discussing the third fact, three polishing theories are shown below.

Polishing theories	Details
Minimal cut Theory	Make a flat surface by cutting little by little by using the abrasive material’s power to cut the object
Elastic flow theory	During polishing, the abrasive material and the object get hot and bumps on the surface become elastic and flow to fill in dips on the surface, resulting in a flat surface.
Chemical reaction theory	A certain chemical reaction occurs among the abrasive material, grinding lubricant, and the object and creates a hydration layer. By removing it, the surface becomes flat.

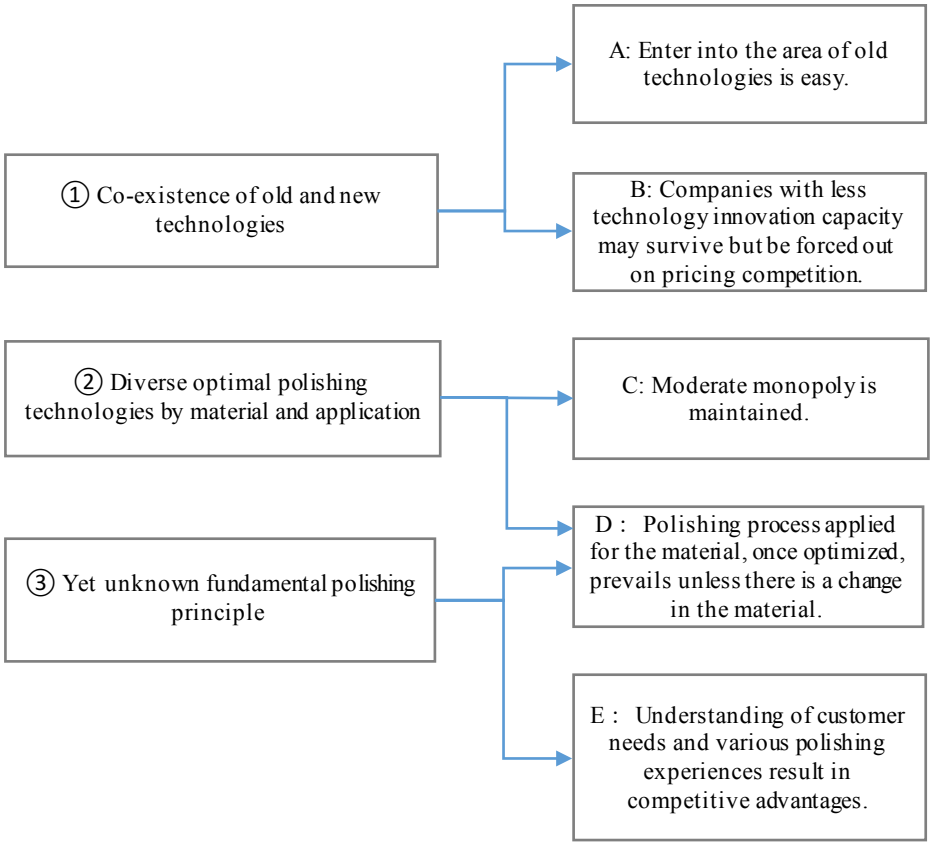
In most polishing cases, the above principles are working in a complex manner. In fact, today's science has not fully figured out why the object can be polished, or what exactly happens on the surface when polished. The only possible explanation comes from fragmentary phenomena such as the above and empirical presumptions. It is extremely interesting that the principle of treatment of rough surfaces is not yet fully known, although polishing technology was available since the dawn of history.

The abrasive industry's three defining facts and competitive principle are summarized in the following diagram.

The abrasive industry's characteristics based on the three defining facts

Monopolistic competitive situation with a certain degree of differentiation

The abrasive industry's three defining facts and competitive principles, "monopolistic competitive situation with some differentiation"



Companies which make no efforts are forced out. But those with a good strategy have the potential to increase market shares.

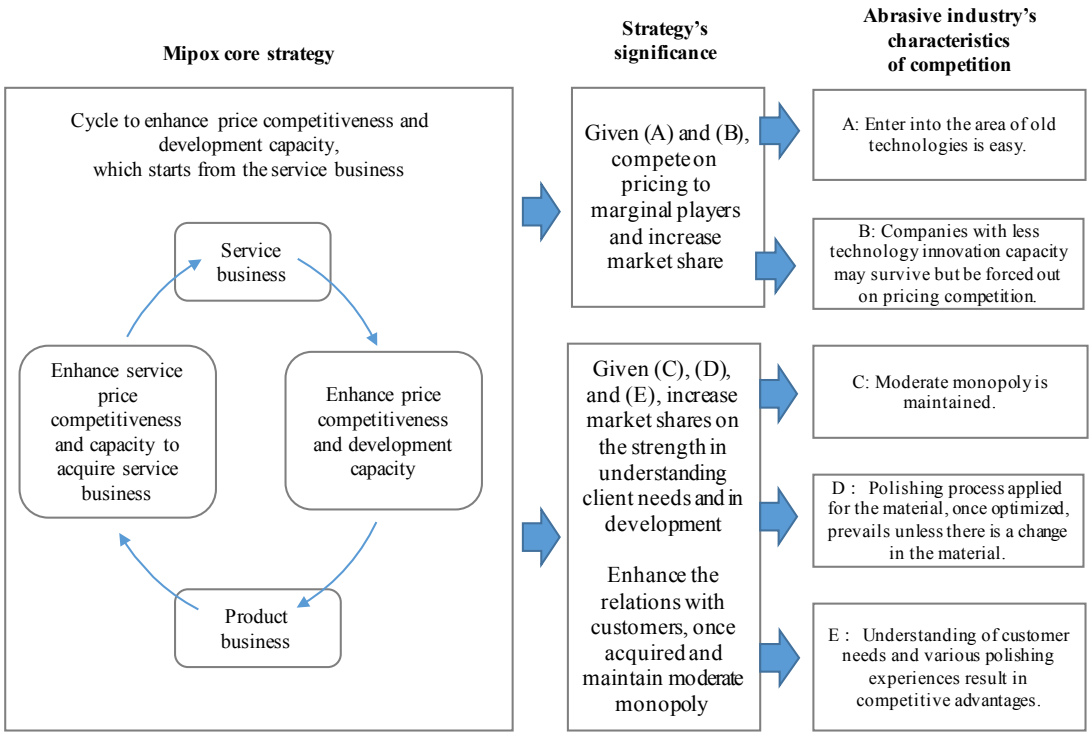
Fact (1) makes it easy for companies to enter the area of old technologies (A). If that does not happen, companies with less technological innovation capacity may survive (B). However, if they generate attractive profit, others may immediately try to enter. Moreover, if larger, better-capitalized companies attempt to compete on price, those with old technologies face the risk of being forced out. Therefore, a certain degree of differentiation may be possible but companies which make no or insufficient effort always face the risk of being forced out. In contrast, those with a good strategy have the potential to increase shares through pricing competition in the abrasive industry market.

Fact (2) means that even if the same technologies are used, companies that satisfy distinctive polishing need in terms of a specific material or application can earn an insulated profit. And once so established, that business may probably continue for a long time. This aspect also relates to the fact (3). As the fundamental polishing

Source of competitiveness is the capacity to understand cutting-edge and new polishing needs	principle is as yet unknown, the polishing application, once optimized, is highly likely to be used without any predetermined limit. In addition, having a diverse customer base is also a strength as that company can make good proposals by grasping customer needs and analyzing diverse polishing process factors. As a premise, enhanced solid relations with customers is indispensable.
Effectiveness of Mipox' core strategy based on the industry's characteristics High potential for Mipox to increase shares by promoting the core strategy, which is hard to be imitated Structured to consistently improve capacity to grasp cutting-edge and new polishing needs	In light of the above observation, let us examine the core strategy of Mipox. The characteristics (A) and (B) suggest that many very small companies with no innovative technological prowess exist in this industry and provide products based on conventional technologies. Relative to such companies, Mipox should be able to increase its market shares if it competes more on pricing, with the aim of improving scale merit and utilization rate within the cycle that originates from the service business, as defined in its core strategy. With regard to the characteristics (C), (D), and (E), new or cutting-edge needs require deep relations with customers and development capacity in order to be satisfied. Customers, once acquired, tend to stay with the same company as long as the same products are being offered. This suggests that Mipox can increase market shares if it consistently improve development capacity in response to customer needs in polishing services. Moreover, various technological experiences obtained by offering diverse products will raise Mipox comprehensive capacity to respond to customer needs. The following diagram summarizes what has been discussed so far. Mipox core strategy is highly valued as it has structured it to make use of the three industry facts as a competitive advantage and has embedded a way to achieve sustainable growth and stable profits.

Mipox' core strategy matches the characteristics of the abrasive market and embeds a way to achieve sustainable growth and stable profits

Expand product line-ups of Nihon Kenshi and MKC to make them more competitive



Strategy comparison with major competitors

Mipox has advantages in price competitiveness, product line-up, and capacity to grasp customer needs

■ **Comparison with major competitors in Japan**

The table below compares Mipox with its major competitors in Japan, based on similarities of business activities. Mipox has three advantages compared to its peers. First, Mipox is estimated to be No. 1 in sales of own products due to its high internal sourcing rate, while it is relatively difficult for competitors that rely on subcontractors and to compete on pricing in the long run. Mipox, which has a high utilization rate, therefore can compete on pricing and increase market shares. Second, Mipox is No. 1 with rich product line-up of both precision polishing and general polishing. Having diverse polishing know-how means it has strong capacity to respond to new needs, hence strong capacity to find potential customers. Third, Mipox is the only major company that is also engaged in relevant service business. This allows Mipox, which is given challenging, advanced, or new requirements in its service business, to better grasp cutting-edge or new needs than other companies. Based on those three advantages, Mipox is most likely to increase market shares over time. While this report omits discussion on the global competitive landscape, it is basically similar. There is no major competitor which is engaged both in polishing products and service business, or which has a rich product line-up in precision polishing and general polishing. Therefore, it would be highly probable that Mipox can expand overseas by taking a similar strategy overseas as in Japan.

	Riken Corundum Co., Ltd.	**Sankyo Rikagaku Co., Ltd.**	**KOVAX Corporation**	**Noritake Coated Abrasive Co., Ltd.**	**Koyosha Inc.**	**Mipox Group**
Business area	General polishing	General polishing	General polishing	General polishing	General polishing	Precision and general polishing
Annual sales (¥billion)	4.5	11.5	7.5	6.5	2.7	7.0
Internal sourcing rate	Medium	Low	Medium	High	Low	High
Product line-up	△	○	△	○	△	◎
Service business	×	×	×	×	×	○

Mipox' positioning: Three advantages

1) High internal sourcing rate results in No. 1 in sales of own products → Strong long-term price competitiveness
2) No. 1 in product line-up in precision polishing and general polishing
3) The only company engaged also in service business → Strong in capturing leading-edge customer needs

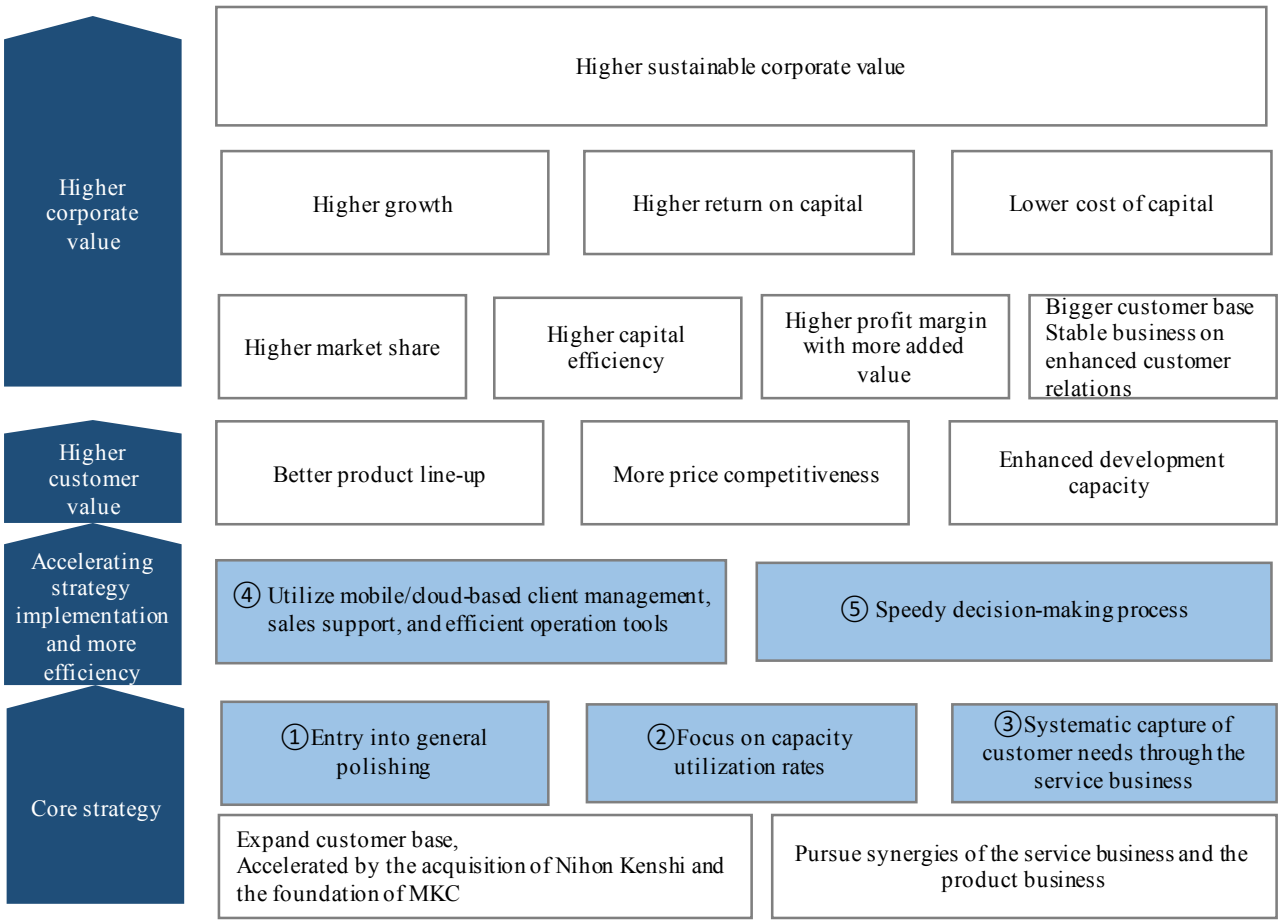
Mobile/cloud-based reform: Initiative to accelerate implementation of the strategy

Mobile/cloud-based management reform

■ **Work style reform that accelerates implementation of the strategy**

Mipox' aforementioned strategy can be summarized as (1) to enter into general polishing businesses; (2) to focus on capacity utilization rates; and (3) to catch client needs through service business. In addition, aiming for accelerating such actions, Mipox is undertaking (4) to utilize mobile/cloud-based client management, sales support, and efficient operation tools; and (5) to speedily make decisions through information sharing. Initiatives (4) and (5) can be identified as its "work style reform." In another way, (1), (2), and (3) are backbone initiatives of the core strategy, while (4) and (5) are to accelerate such moves. Initiatives (4) and (5) are added to the following graphic "Mipox core strategy and matrix to raise corporate value."

Mipox' Core Strategy and Matrix to Raise Corporate Value



Specific tools adopted and their impacts

Comprehensive adoption of mobile/cloud-based tools contributes to improvement in profitability and asset efficiency.

■ **Specific tools adopted and expected impacts**

Under the strong leadership of President Watanabe, mobile/cloud-based tools have been put to use in rapid succession. Major ones and their expected impacts are summarized below. Such actions have already resulted in more added value and more efficient operation, leading to aforementioned improvement in operating margin, asset turnover, and ROIC.

Tools	Objectives	Impacts
CRM	・Customer management ・Maximize sales activities ・Share best practices ・Share customer needs ・Information sharing via internal SNS ・Speedy decision-making process ・Share all corporate information via smartphones	・Fewer business trips ・Employees' mutual understanding enable flexible staff allocation ・Surge in sales leads ・Reduction in administrative costs ・Request to be cleared takes 0.4 day on average ・Employees become more knowledgeable due to information sharing ・Work life is better balanced with private life ・Enhanced capacity to develop technology
Marketing automation	・Automate the flow to lead web-based customer actions to solution proposals	・Better grasp customer needs ・Reduce marketing and sales process costs
Business intelligence	・Analyze information obtained from CRM ・Enhance proposal-making capacity	・Expand proposal-making capacity ・Enhance technology development capacity
Mobile-based inventory management system	・Combine ERP and mobile-based bar code system	・Grasp the real-time status of inventories ・Reduce costs to check inventory assets

Realize enhanced customer proposals, more efficient operation, and optimal allocation of resources

↓

More efficient asset utilization, higher operating margin and ROIC

Each tool is not easy to adopt but has been well adopted by taking comprehensive measures as follows. The most key factor, however, has been President Watanabe's strong leadership

Implemented various measures in adopting tools

The most key factor was President Watanabe's strong leadership

Measures for adoption of cloud-based tools

1. President Watanabe's leadership
   a. Take responsibility in promoting adoption
   b. Take the lead to use the tool and actively produce messages
   c. Stay familiar with activities of employees in and outside Japan
2. Gradual introduction
   a. Start with how to make input, then gradually encourage expanded usage
3. Compulsory introduction at a certain level
4. At present, use of e-mail for internal communication is prohibited. Use of information sharing tools for CRM is made obligatory. All employees must use the tools.
   a. Introduced the tools to all employees although its cost was equivalent to 30% of annual income of employees in some regions
   b. Considering partial introduction to dispatched workers
5. Each employee's status of utilization is reflected in his/her evaluation.
   a. Employees who do not use tools nor send out information are evaluated rigorously
6. Hold events to encourage accelerated utilization
   a. In fiscal 2015, the budget was assembled by means of the CRM, with no actual meetings or get-togethers

Initiatives of Mipox attracted great attention as mobile/cloud-based management reform

The above initiatives attracted great attention and President Watanabe received numerous invitations to speak about his reform by use of mobile/cloud-based tools (see some articles from the Facebook Mipox pages below.)

August 1： We are already in August! Despite the hot weather, President Watanabe will continue his lectures this month. Tomorrow, on August 2, he will make a presentation in the seminar "Cloud strategy that makes small companies go on the offense in Sendai," hosted by Salesforce.com. He will show how Mipox is using the cloud-based application "Salesforce" in the group discussion format. We hope you look forward to it!

[Presentation of Mipox in the seminar "Cloud strategy that makes small companies go on the offense in Sendai"]

August 26： Today, CRESCO e-Solution Co. Ltd. held a user forum in Osaka and President Watanabe spoke about how Mipox introduced the bar code system. Mipox uses Cresco's handy terminal coordination system. Watanabe talked about initial difficulties and evolution of an alliance with "Salesforce," as well as the Mipox new work style. As most participants were existing or potential users of Cresco's systems, the informal meeting afterwards was also worthwhile. We hope our experience can be useful to other companies. Thank you for attending our presentation.

Making employees work vigorously and flexibly

■ **Employees work with enthusiasm**

Among the management reform initiatives, (4) to utilize mobile/cloud-based client management, sales support, and efficient operation tools; and (5) to speedily make decisions through information sharing, have resulted in various changes in the Mipox Group. Employees are communicating more actively with each other in a more trustworthy, amical work environment and have become more satisfied in their workplace. The Mipox Philosophy (Think Act, Dignity, Direction, Speed, Positive, Professional) provides an effective common agenda for employees to work together. President Watanabe, playing a leading role to act up to the Philosophy, actively communicates with employees by using cloud-based tools, and understands what is going on in the organization. By working together based on the common philosophy, employees better understand each other and are helped to promote a friendly working environment.

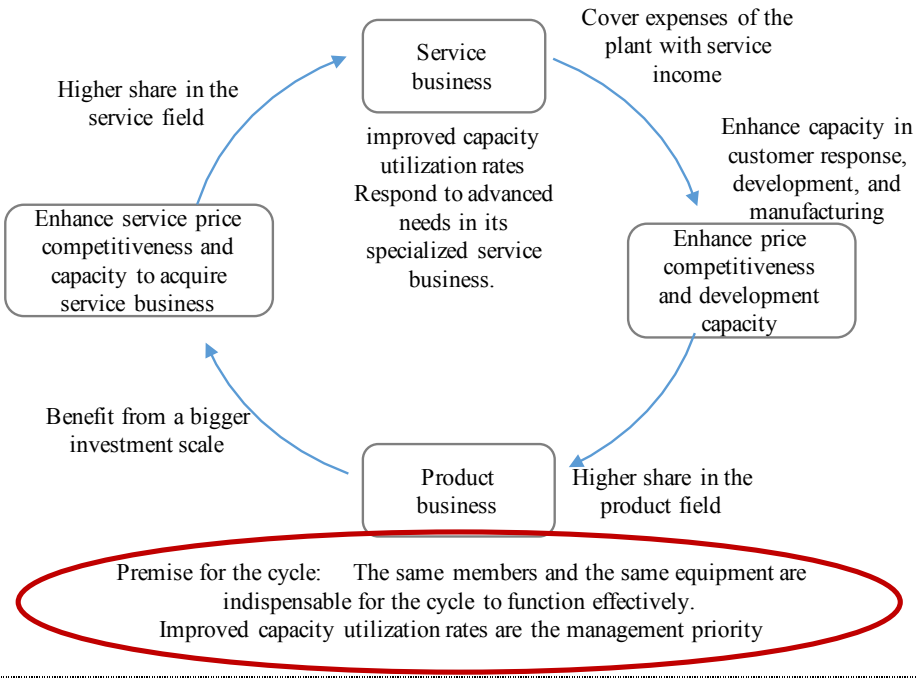
Employees mutually support operations by globally relocating among bases

Active communication among employees based on the common philosophy solidifies the aforementioned cycle that starts from the service business. The same members and the same equipment are indispensable for the cycle to function effectively. As the employees understand each other and the status of other divisions, they can flexibly and mutually accommodate each other's work.

Global optimal allocation of management resources is enabled

Anticipating personnel expenses to be controlled

Cycle to enhance price competitiveness and development capacity, which starts from the service business



	Among 240 Mipox employees, non-Japanese represent about a half. As employees follow each other's work status real-time, they can be assigned most appropriately, in keeping with the changing business environment. Mutual understanding facilitates work support across different business lines with minimum hand-over and other processes. This is expected to result in the need for less workers, while productivity or added value per employee can more easily rise in the long run. Having many employees who are fluent in foreign languages is another strength of Mipox.
Significance of integration with acquired companies	■ **Strategy integration and transplanting of the Mipox way of management (management synergy) to acquired companies** Mipox is active in disclosing various in-house activities on the company's Facebook pages, including the process of integration of the acquired businesses, in detail. Numerous related articles that were made available through Facebook confirm that the strategy integration and the transplanting of the Mipox way of management (management synergy) have been proceeding rapidly at the acquired companies. These changes are very important for the early realization of Mipox core strategy. Integration is also facilitated by mobile/cloud-based tools. Their Facebook pages are worth checking: https://www.facebook.com/mipox.japan/.

Examples of integration promotion on Facebook: MKC

July 15
[Mipox Group's Training by a member of MKC]
A newly hired woman who joined Mipox Kyoto (MKC), a subsidiary in Kyoto, only a few months ago, who is a member of the financing and accounting team, visited the Tachikawa Head Office and the Yamanashi Plant for the training. The program started smoothly as she had been in touch with many of the others over the phone or via the IT tool. Studying the entire process from coating, inspection, slitting to packaging, she got a better specific idea of the processes. Thank you in advance in supporting our new member, who seems to have become more confident.

August 23
[Mipox Kyoto: the first summer cool-down get-together]
The first summer cool-down get-together, since we become Mipox' subsidiary Mipox Kyoto, will be held this evening. More than six months have passed and we are pleased to be operating smoothly. The first synergy impact might be to see more smiley-like faces of our employees. Let's work together and make good efforts!

Examples of integration promotion on Facebook: Nihon Kenshi

August 8
[Nihon Kenshi's products arrived for exhibition at Mipox offices]
Nihon Kenshi, which recently joined the Mipox Group, sent their product samples to Mipox bases in Japan and overseas for exhibition purposes.. The samples arrived safely and are exhibited in showcases. These polishing products contribute to various industries, from musical instruments to aircraft. Please drop by and take a look! (Photos are of some bases.)

August 2
[“Salesforce” study session in Nihon Kenshi]
Some members of the Mipox Tachikawa Head Office are visiting Nihon Kenshi, which recently joined the Mipox Group, to share methods of how to use cloud-based application “Salesforce” with their sales members. Today we visited their Osaka Head Office and Fukuyama Plant. Members from other nearby sales branches also joined. Instructors of this study session are young employees of Mipox, and are called the “SF Generation” as they have utilized “Salesforce” from the time they entered Mipox. They appeared flattered to be called “instructors.” The 90-year-old company and the 85-year-old company are finally interconnected via IT tools.

August 18
[Overseas staff visit Kyoto and Hiroshima]
Mr. Ng, President of Mipox Singapore and some staff from India are visiting Japan. They went to a subsidiary, Mipox Kyoto, yesterday and are visiting the Fukuyama Plant of Nihon Kenshi, another subsidiary today. The head of our Malaysian office also joined the group. Visits to the facilities and product explanation are all conducted in English.

Evaluating MIPOX from its strategic framework

Evaluation based on the external environment analysis

Generally favorable external environment

■ Evaluation based on PEST analysis

Let us start evaluating Mipox strategy's initiatives from the external environment. In general, many factors are positive, suggesting a favorable environment for Mipox' global expansion. According to a global research firm, the abrasive market has a projected CAGR of around 6%[1].

Factors	Condition	Mipox strategy and response
Political	• More globalized with TPP • Deteriorated relations with China	• Expand global businesses • Acquired alternate manufacturing bases (Nihon Kenshi, MKC) to China
Economic	• Progress of industrialization in emerging countries	• Cope with global growth of polishing demand
Social	• Polishing contributes to improved fuel efficiency • Polishing is critical for manufacturing of power semiconductors	• Increase in polishing demand to minimize friction and consume less energy
Techno-logical	• 3D printers in practical use • Expanded storage capacity due to the IoT and clouding trends • More communication capacity → more demand in precision polishing of fiber optics	• Give attention to growth in demand of surface polishing of 3D products • Give attention to growth in polishing demand to increase added-value of IT products

The Five Forces analysis shows Mipox has been taking appropriate measures

■ Evaluation based on the Five Forces analysis

The Five Forces analysis results in the following evaluation for Mipox strategy. As mentioned above, the abrasive industry is believed to be in a "monopolistic competitive" situation with a certain degree of differentiation. In such market, a company that executes a differentiating strategy, led by its sustainable pricing power, proposal power, and development power, can unfailingly increase market share. Mipox being such company should be able to steadily increase its market share, promoting the strategy to compete on sustainable pricing, backed by its high capacity utilization rate, high development capacity, and solid client relations based on CRM.

Factors	Condition	Mipox strategy and response
Industry rivalry	So-called "monopolistic competitive situation" Somewhat differentiated with less harsh price competition	Increase shares by improving price competitiveness and development capacity, such changes originated from the service business
New entrants	Easy to enter into old- technology fields Even easy for other IT companies to enter advanced technology fields	Constantly explore ways to satisfy cutting-edge needs. Compete on pricing in old technologies
Substitutes	Cutting-edge needs are difficult to be satisfied by substitutes	Constantly explore ways to satisfy cutting-edge needs to enhance competitiveness

Suppliers	Diversified sourcing reduced suppliers' bargaining power	Control raw material costs, partly by direct sourcing from overseas
Customers	Close relations with customers are important to satisfy cutting-edge needs High pricing negotiation power of customers in old technology fields	Enhance relations with customer by strength in development for cutting-edge needs Improve operating rate and compete in pricing in conventional technology fields

Internal management analysis

Management resources are consistent with its strategy

■ **Value Chain**

Mipox has an extensive value line, encompassing equipment for abrasive production, manufacturing and inspection, making polishing process proposals, and service business, as mentioned. Its value chain is quite strong, as it enables the company to satisfy extensive needs, on the back of its competence in advanced precision polishing. Mipox is also in the top class in internal-sourced product and service sales. Its comprehensive value chain is therefore very valuable as a management resource, in terms of quality and quantity.

■ **VRIO analysis**

The following table evaluates Mipox by the Value, Rarity, Imitability, and Organization parameters. It shows that Mipox has very solid management resources.

	Evaluation of Mipox
Value	Highly valuable for customers, given the high quality of precision polishing and rich product line-up of general polishing and precision polishing fields
Rarity	The only major company in the world that has both precision polishing and general polishing as product offerings, and are engaged in both services and product manufacturing.
Imitability	Imitation by rivals of the integrated organizational management of services and product manufacturing and ultra-precision polishing development capacity would be difficult.
Organization	Management strategy is well understood within the organization via the mobile/cloud-based tool. Optimization of staff assignments on a global basis is possible, free of any restriction by the nationality of employees.

Cross SWOT analysis

■ **Valued highly in the Cross SWOT analysis, showing exhaustive measures taken by Mipox**

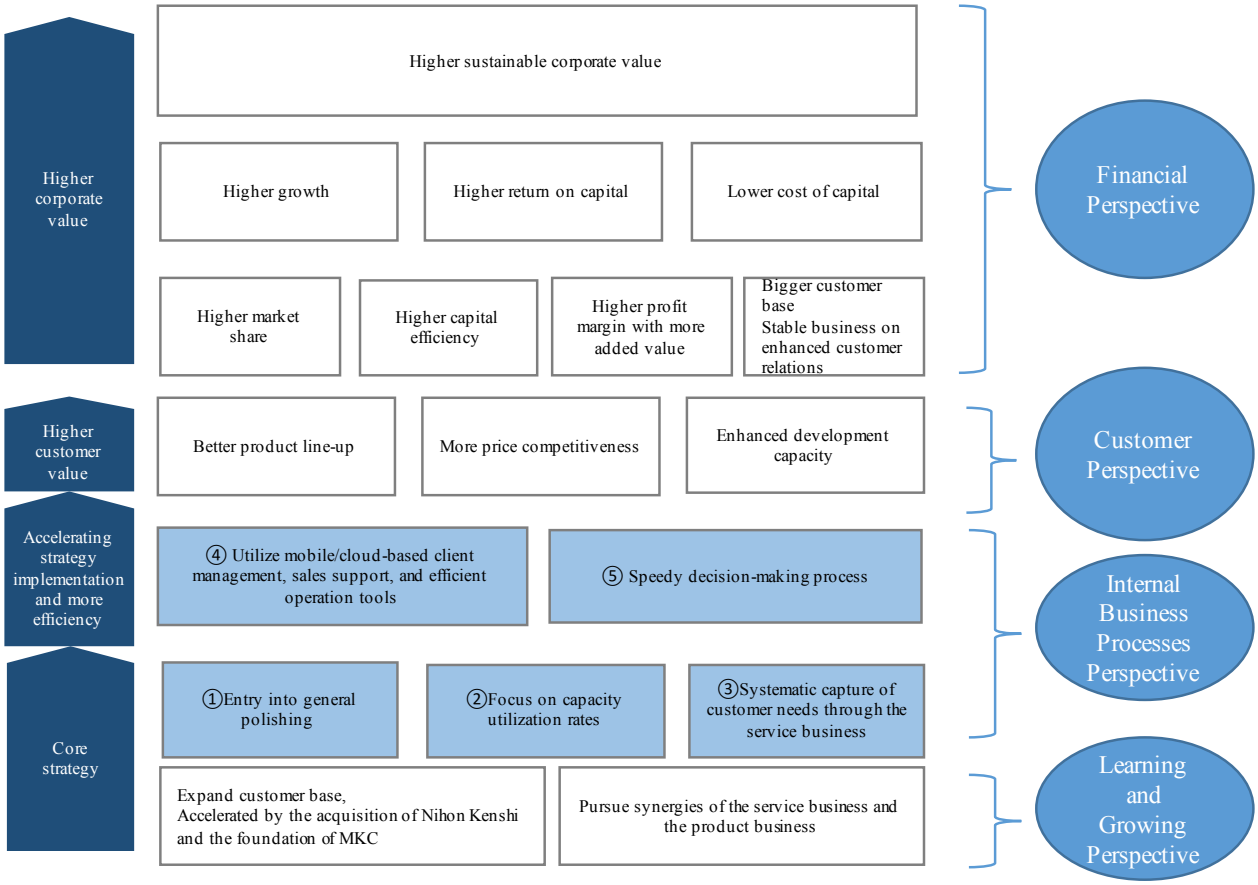
The external environment analysis, internal management analysis, and initiatives of the strategy are compiled in the following Cross SWOT analysis. Exhaustive measures taken by Mipox can be highly evaluated.

	Opportunities	**Threats**
	・Global CAGR of 6% ・Demand growth in precision polishing	・Deteriorated relations with China
Strengths ・Rich product line-up in precision/general polishing ・Ultra-precision technology ・One-stop offering ・Services and product manufacturing businesses	・Enhance strength coming from use of cloud/mobile-based tools ・Enhance optimal allocation of all employees globally ・Maintain/enhance the sales and marketing power	・Expand manufacturing bases in Japan
Weaknesses ・Delayed globalization in general polishing ・Foreign exchange risks ・Still high reliance on certain customer ・Smooth acquisition and integration	・The acquisition of Nihon Kenshi led to broader product offering and a wider customer base ・Enhance foreign exchange hedge arrangements ・The acquisition of Nihon Kenshi (high domestic sales ratio) reduced forex risks of the overall group ・Enhance globalization and cross-selling of general polishing business ・Accelerate reaching potential customers and reduce reliance on certain products ・Use cloud/mobile-based tools for smooth progress in integration	・Expand bases in Japan ・Explore sales channels other than in China

Balanced Scorecard

■ **Sorted out by the Balanced Scorecard**

The Balanced Scorecard serves to sort out the "flow of Mipox to raise corporate value" from four perspectives: Financial, Customer, Organization, and Learning. The diagram below does this for Mipox value creation flow.



Financial performance review

Financial performance

■ **Improve in all components comprising corporate value**

Mipox has shown improvement in scale, profitability, and capital efficiency since fiscal 2011 when President Watanabe began the reforms (see below.) In the most recent first quarter of fiscal 2016, however, Mipox recorded losses due to a decrease in certain deals and the fluctuation of foreign exchange. The company's profit tends to fluctuate on a short term basis, implying some risks in investing from a short term perspective and importance to determine whether Mipox can have more stable earnings as a result of risk hedges or expansion of its scale. It is noteworthy that the acquisition of Nihon Kenshi, which has a higher domestic sales ratio, is substantially lowering forex risks of Mipox. It will become less sensitive to forex fluctuations, with a drop in the export ratio from 60% to 44%.

(¥millions)

	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016 1Q
Average US$/¥	116.9	114.2	100.4	92.8	85.7	79.0	83.1	100.2	109.9	120.1	108.1
Sales	8,329	6,083	3,238	3,013	3,157	3,045	3,409	3,760	3,985	4,204	1,047
Overseas Sales	2,971	2,127	1,616	1,955	2,197	1,994	2,073	2,239	2,824	3,067	-
Cost of goods sold	5,277	4,731	2,458	2,025	1,879	1,920	1,965	2,199	2,235	2,077	673
Gross Income	3,051	1,352	780	988	1,278	1,125	1,444	1,561	1,750	2,127	374
SG&A expenses	2,532	2,267	1,992	1,524	1,171	1,106	1,168	1,292	1,382	1,619	366
Operating Income	518	-915	-1,212	-536	105	18	275	267	367	508	7
Interest expense, etc.	36	34	48	40	37	34	24	20	11	10	3
Other expenses and incomes, etc.	56	-59	39	26	17	24	20	-5	22	62	-14
Interest payable	4	-95	-6	-16	-68	-17	29	58	168	-47	-50
Other non-operating income and expenditure	541	-1,103	-1,227	-566	17	-9	300	300	546	513	-60
Foreign exchange gain or loss	0	0	0	0	0	0	0	0	0	0	0
Ordinary (pre-tax) profit	538	-894	-1,468	-1,129	17	-43	217	272	542	448	-67
Extraordinary gain or loss	196	402	29	70	27	38	63	43	34	123	0
Pre-tax profit	0	0	0	0	0	0	0	0	0	0	0
Tax expense	340	-1,296	-1,497	-1,200	-9	-82	154	230	508	323	-67
Minority interest	208	-1,388	-1,548	-1,200	-9	-82	154	230	458	245	-67
Net income	-132	-92	-51	0	0	0	0	0	-50	-78	0
current assets	5,702	6,362	4,443	2,516	2,510	2,699	2,950	3,670	4,282	4,602	5,436
Tangible fixed assets	4,922	4,742	4,055	3,196	3,082	2,889	2,245	2,059	2,287	2,351	2,342
Total Assets	11,981	11,714	8,736	5,901	5,663	5,631	5,280	5,884	6,882	7,316	8,127
Notes payable accounts payable	657	548	163	192	288	188	147	175	232	231	219
Current Liabilities	2,068	3,619	2,942	1,522	1,506	1,444	806	568	875	1,111	2,337
Long-term debt bonds, etc.	1,123	738	538	357	202	304	304	746	809	1,028	972
Fixed liabilities	1,651	1,380	729	500	333	437	498	1,022	1,112	1,249	1,182
株主資本	8,022	6,606	5,044	3,843	3,833	3,751	3,807	4,044	4,559	4,835	4,662
Capital investment	-437	-284	-62	13	-155	24	504	-39	-496	-408	
Depreciation and amortization	496	492	476	320	293	213	188	223	260	335	
Net investment	-59	-208	-414	-333	-138	-237	-692	-184	236	73	
Gross profit margin	36.6%	22.2%	24.1%	32.8%	40.5%	36.9%	42.4%	41.5%	43.9%	50.6%	
SG&A expenses / sales rate	30.4%	37.3%	61.5%	50.6%	37.1%	36.3%	34.3%	34.4%	34.7%	38.5%	
Operating margin	6.2%	-15.0%	-37.4%	-17.8%	3.3%	0.6%	8.1%	7.1%	9.2%	12.1%	
Liquidity on hand turnover period (days)	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
Surplus cash turnover period (days)	14.3	114.5	255.6	26.3	40.8	60.8	83.6	111.7	136.4	146.7	
Notes receivable accounts receivable turnover period (days)	87.4	110.0	67.0	107.8	97.7	95.2	86.7	103.3	100.7	91.8	
Other current assets turnover period (days)	13.5	23.2	10.7	14.7	8.0	18.5	7.2	14.4	26.7	24.9	
Inventory turnover period (days)	74.7	74.1	107.5	96.1	83.7	89.1	78.4	66.9	68.5	76.1	
Notes payable accounts payable turnover period (days)	28.8	32.9	18.4	23.3	33.3	22.5	15.7	17.0	21.2	20.1	
Other current liabilities turnover period (days)	20.7	22.0	38.2	18.4	13.5	33.7	25.3	22.8	39.4	53.0	
Working capital (days)	186.1	212.4	188.6	236.9	202.6	206.5	191.3	204.7	195.2	179.7	
Working capital	4,246	3,540	1,673	1,955	1,752	1,723	1,786	2,109	2,131	2,070	
Fixed asset	6,277	5,351	4,292	3,383	3,151	2,931	2,329	2,212	2,599	2,712	
Invested capital	10,523	8,891	5,965	5,338	4,903	4,654	4,115	4,321	4,730	4,782	
ROIC	4.9%	-6.9%	-13.6%	-6.7%	1.4%	0.3%	4.5%	4.1%	5.2%	7.1%	
Interest-bearing debt	2,061	3,443	2,978	1,535	1,303	1,279	727	904	1,022	1,297	2,407
Other long-term liabilities	528	642	191	143	131	133	194	276	303	221	210
Net assets	8,261	6,713	5,064	3,878	3,823	3,749	3,975	4,292	4,894	4,956	4,608
Invested capital	10,850	10,798	8,233	5,556	5,257	5,161	4,896	5,472	6,219	6,474	7,225
D / E ratio	0.25	0.51	0.59	0.40	0.34	0.34	0.18	0.21	0.21	0.26	0.52
Year-end ROE	4.1%	-19.3%	-29.6%	-30.9%	-0.2%	-2.2%	3.9%	5.4%	10.4%	6.5%	
Sales / year-end tangible fixed assets		1.24	0.68	0.74	0.99	0.99	1.18	1.67	1.94	1.84	
Depreciation / capital investment		0.10	0.10	0.08	0.09	0.07	0.07	0.10	0.11	0.13	
Year-end invested capital turnover ratio		0.68	0.54	0.56	0.64	0.65	0.83	0.87	0.84	0.88	

Scale
FY2011 or later
Grow at 8% per annum
Sales of 3.0 billion
→
4.2 billion yen

Profitability
Gross profit margin
36% → 50%,
Operating margin
0.6% → 2.1%
Significant improvement

Capital efficiency
ROIC
0.3% → 7.1%
Invested capital turnover ratio
0.65 → 0.88
Significant improvement

Corporate value evaluation

Evaluation based on dissolution value

Conservatively-estimated dissolution value is around ¥420 per share

■ **Asset-based evaluation**

In considering corporate value of Mipox, which has strong management resources mainly in precision polishing, it is important to first assess the investment value of assets at present, and then think about upside potential. The combined sum of depreciation expenses of the past 10 years and the present tangible asset amount of both Mipox and Nihon Kenshi totals ¥6.4 billion. Adding cash and deposits of ¥2.5 billion and subtracting the latest interest-bearing debt of ¥4.5 billion, shareholder value is amounted to ¥4.5 billion, or around ¥420 per share. While this amount is conservatively estimated, it is much higher than the current share price of Mipox.

DCF Analysis

After the reforms of the acquired businesses proceed, the stock price of Mipox may have a potential to rise to over ¥550 or so

■ **DCF method-based corporate value**

Mipox has not disclosed the financial data incorporating the integration of Nihon Kenshi yet. This poses a challenge in assessing corporate value based on the discount cash flow method. What is important in this calculation is to make estimates by incorporating not short-term but long-term profitability, asset turnover ratio, and other data. As the Nihon Kenshi that was acquired is less profitable, the operating margin of Mipox is estimated to decline from 12% in fiscal 2015 to around 7% in fiscal 2016. But in our view, Mipox can easily improve its operating margin to about 10%. We can also realistically assume that at minimum the global market average compound annual growth rate of around 6% in sales will be achieved by Mipox. Other key assumptions are the working capital turnover period to be maintained; the asset turnover ratio to be gradually improved; weighted-average cost of capital of 5%; goodwill associated with the integration of Nihon Kenshi to be simplistically assumed zero; and cash and deposits, needed as liquidity on hand, of two months of sales. As a result, the fair stock price is calculated to be ¥587 (details on the next page), which means the shares are selling at a PER of around 20 times based on the company's forecasted EPS for this fiscal year. Given the long-term upside business potential of Mipox, we believe that this price can be fully justified. For additional reference, the economic value added (EVA, a registered trademark of Stern Stewart & Co.) is also calculated as another measure of corporate value. EVA is estimated to turn red in fiscal 2017 but turn into black from fiscal 2018 (see page 33). These are summarized in the following table.

(¥millions)		FCF analysis	EVA analysis
	Current	Estimated	Estimated
Net present value of the FCF		9,486	
Improvement value of future EVA			2,380
Continued value of the current situation EVA			-610
Beginning of the year invested capital			7,716
Surplus cash and deposits		1,762	1,762
Corporate value	4,971	11,248	11,248
Interest-bearing debt	4,971	4,971	4,971
Market capitalization	2,920		
Estimated shareholder value		6,277	6,277
The number of shares outstanding (thousands of shares)	10,696,320	10,696,320	10,696,320
Current Stock Price (Yen)	273		
The theoretical share price (Yen)		587	587

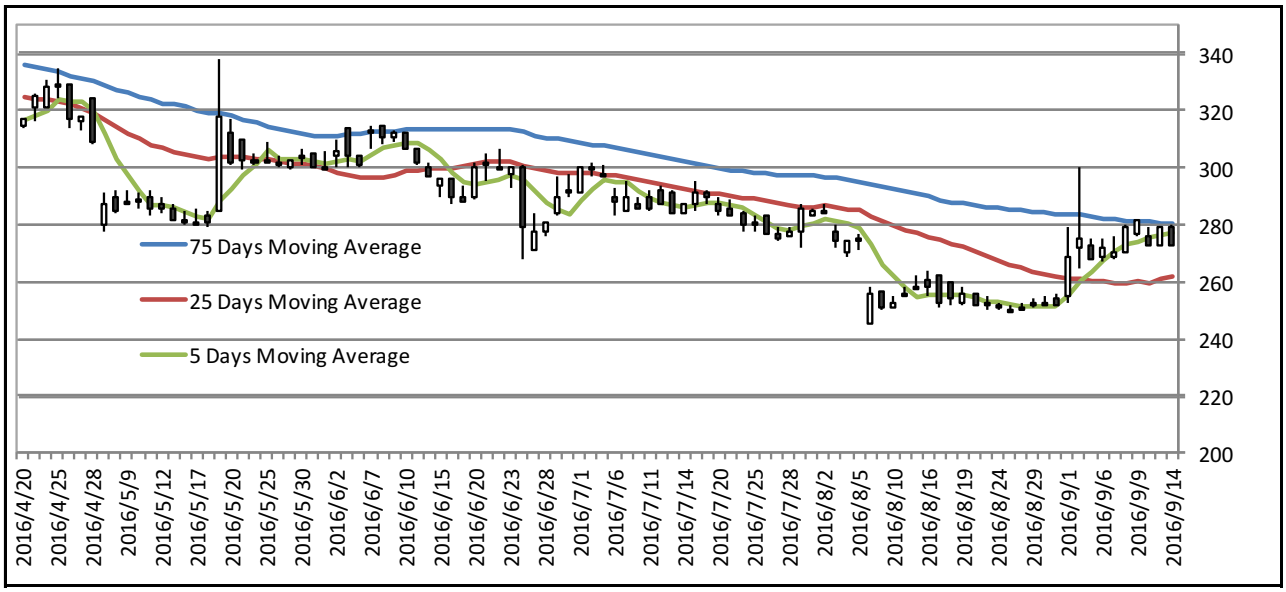
(¥millions)

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
Sales	6,831	7,241	7,675	8,136	8,624	9,141	9,598	9,982	10,282	10,488	10,592	10,592	10,592
Cost of goods sold	4,372	4,562	4,759	4,963	5,261	5,576	5,855	6,089	6,272	6,397	6,461	6,461	6,461
Gross Income	2,459	2,679	2,917	3,173	3,363	3,565	3,743	3,893	4,010	4,090	4,131	4,131	4,131
SG&A expenses	1,981	2,100	2,226	2,359	2,501	2,651	2,784	2,895	2,982	3,041	3,072	3,072	3,072
Operating Income	479	579	691	814	862	914	960	998	1,028	1,049	1,059	1,059	1,059
Interests Payment	80	74	70	63	67	70	72	73	71	65	58	50	41
Other expenses and incomes, etc.	-47	0	0	0	0	0	0	0	0	0	0	0	0
Foreign exchange gain or loss	0	0	0	0	0	0	0	0	0	0	0	0	0
Ordinary Income	432	505	621	750	796	844	888	925	957	984	1,001	1,010	1,018
Extraordinary gain or loss	0	0	0	0	0	0	0	0	0	0	0	0	0
Pre-tax Income	432	505	621	750	796	844	888	925	957	984	1,001	1,010	1,018
Tax expense	130	167	205	248	263	279	293	305	316	325	330	333	336
Minority interest	0	0	0	0	0	0	0	0	0	0	0	0	0
Net income	302	338	416	503	533	566	595	620	642	659	671	677	682
Retained earnings	227	254	312	377	400	424	446	465	481	494	503	507	512
The payment of dividends	76	85	104	126	133	141	149	155	160	165	168	169	171
Cash and deposits	2,885	2,381	1,893	1,337	1,418	1,503	1,578	1,641	1,690	1,724	1,741	1,741	1,741
Need liquidity on hand	1,123	1,190	1,262	1,337	1,418	1,503	1,578	1,641	1,690	1,724	1,741	1,741	1,741
Surplus liquidity on hand	1,762	1,190	631	0	0	0	0	0	0	0	0	0	0
Cash Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes receivable accounts receivable	1,960	2,078	2,202	2,334	2,474	2,623	2,754	2,864	2,950	3,009	3,039	3,039	3,039
Inventory	1,842	1,953	2,070	2,194	2,325	2,465	2,588	2,692	2,773	2,828	2,856	2,856	2,856
Deferred tax assets liquidity	135	135	135	135	135	135	135	135	135	135	135	135	135
Other current assets	471	499	529	561	594	630	662	688	709	723	730	730	730
Current assets	7,293	7,045	6,828	6,561	6,947	7,356	7,717	8,020	8,257	8,419	8,502	8,502	8,502
Tangible fixed assets	2,870	3,261	3,623	3,970	4,308	4,647	4,994	5,305	5,491	5,515	5,515	5,515	5,515
Land	605	605	605	605	605	605	605	605	605	605	605	605	605
Depreciable assets	2,265	2,656	3,018	3,365	3,703	4,042	4,389	4,700	4,886	4,910	4,910	4,910	4,910
Intangible fixed assets	259	250	240	231	221	212	202	193	183	174	174	164	164
Other fixed assets	164	164	164	164	164	164	164	164	164	164	164	164	164
Goodwill	95	86	76	67	57	48	38	29	19	10	10	0	0
Investments and other assets	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029
Deferred tax assets fixed	5	5	5	5	5	5	5	5	5	5	5	5	5
Others	15	15	15	15	15	15	15	15	15	15	15	15	15
Total assets	11,466	11,599	11,736	11,805	12,520	13,259	13,956	14,562	14,974	15,152	15,235	15,225	15,225
Notes payable accounts payable	730	774	820	869	922	977	1,026	1,067	1,099	1,121	1,132	1,132	1,132
Short-term borrowings Bonds, etc.	3,483	3,151	2,878	2,466	2,670	2,866	3,014	3,068	2,931	2,567	2,123	1,606	1,095
Short-term borrowings	3,337												
Long-term debt in one year repayment	146												
Deferred tax liabilities liquidity	0	0	0	0	0	0	0	0	0	0	0	0	0
Other current liabilities	820	869	921	977	1,035	1,097	1,152	1,198	1,234	1,259	1,272	1,272	1,272
Current Liabilities	5,033	4,794	4,619	4,312	4,627	4,941	5,192	5,333	5,264	4,947	4,527	4,010	3,498
Long-term debt bonds, etc.	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488
Deferred tax liabilities fixed	118	118	118	118	118	118	118	118	118	118	118	118	118
Other long-term liabilities	337	337	337	337	337	337	337	337	337	337	337	337	337
Fixed liabilities	1,825	1,943	1,943	1,943	1,943	1,943	1,943	1,943	1,943	1,943	1,943	1,943	1,943
Paid in capital	1,999	1,999	1,999	1,999	1,999	1,999	1,999	1,999	1,999	1,999	1,999	1,999	1,999
Capital surplus	1,603	1,603	1,603	1,603	1,603	1,603	1,603	1,603	1,603	1,603	1,603	1,603	1,603
Retained earnings	1,259	1,513	1,825	2,202	2,602	3,026	3,472	3,937	4,418	4,913	5,416	5,923	6,435
Treasury stock	-199	-199	-199	-199	-199	-199	-199	-199	-199	-199	-199	-199	-199
Shareholders' equity	4,662	4,916	5,228	5,605	6,005	6,429	6,875	7,340	7,821	8,316	8,819	9,326	9,838
Evaluation translation adjustments and others	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59
Valuation and translation adjustments total	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59
Unrealized gains on securities	0	0	0	0	0	0	0	0	0	0	0	0	0
Other net assets	5	5	5	5	5	5	5	5	5	5	5	5	5
Net assets	4,608	4,862	5,174	5,551	5,951	6,375	6,821	7,286	7,767	8,262	8,765	9,272	9,784
Net assets and liabilities	11,466	11,599	11,736	11,805	12,520	13,259	13,956	14,562	14,974	15,152	15,235	15,225	15,225
Capital investment	-600	-800	-800	-800	-800	-800	-800	-800	-700	-550	-517	-517	-517
Depreciation and amortization	407	400	428	444	452	451	444	479	505	516	517	517	517
Amortization of goodwill	0	10	10	10	10	10	10	10	10	10	0	0	0
Net investment	193	391	363	346	339	339	346	312	185	24	0	0	0
Sales growth rate		6%	6%	6%	6%	6%	5%	4%	3%	2%	1%	0%	0%
Gross income margin	36.0%	37.0%	38.0%	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%
SG&A expenses/ sales high rate	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%
Operating margin	7.0%	8.0%	9.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Cash turnover period (days)	94	60	30	0	0	0	0	0	0	0	0	0	0
Liquidity on hand turnover period (days)	60	60	60	60	60	60	60	60	60	60	60	60	60
Notes receivable accounts receivable turnover period (days)	105	105	105	105	105	105	105	105	105	105	105	105	105
Other current assets turnover period (days)	98	98	98	98	98	98	98	98	98	98	98	98	98
Inventory turnover period (days)	25	25	25	25	25	25	25	25	25	25	25	25	25
Notes payable accounts payable turnover period (days)	39	39	39	39	39	39	39	39	39	39	39	39	39
Other current liabilities turnover period (days)	44	44	44	44	44	44	44	44	44	44	44	44	44
Working capital (days)	205	205	205	205	205	205	205	205	205	205	205	205	205
Beginning of the year invested capital	7,716	7,909	8,530	9,138	9,743	10,356	10,987	11,590	12,118	12,472	12,613	12,672	12,672
Working capital	3,846	4,076	4,321	4,580	4,855	5,146	5,404	5,620	5,789	5,904	5,963	5,963	5,963
Fixed asset	4,063	4,454	4,816	5,163	5,501	5,840	6,187	6,498	6,684	6,708	6,708	6,708	6,708
Year-end invested capital	7,909	8,530	9,138	9,743	10,356	10,987	11,590	12,118	12,472	12,613	12,672	12,672	12,672
Interest-bearing debt	4,971	4,639	4,366	3,954	4,158	4,354	4,502	4,556	4,419	4,055	3,611	3,094	2,583
The number of shares outstanding (shares)	10,133,557	10,133,557	10,133,557	10,133,557	10,133,557	10,133,557	10,133,557	10,133,557	10,133,557	10,133,557	10,133,557	10,133,557	10,133,557
EPS (Yen)	30	33	41	50	53	56	59	61	63	65	66	67	67

(¥millions)

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	Permanent value
D / E ratio	1.08	0.95	0.84	0.71	0.70	0.68	0.66	0.63	0.57	0.49	0.41	0.33	0.26	
Net D / E ratio	0.45	0.46	0.48	0.47	0.46	0.45	0.43	0.40	0.35	0.28	0.21	0.15	0.09	
ROE	6.5%	6.9%	8.0%	9.0%	8.9%	8.8%	8.7%	8.4%	8.2%	7.9%	7.6%	7.3%	6.9%	
Sales / tangible fixed assets	2.38	2.22	2.12	2.05	2.00	1.97	1.92	1.88	1.87	1.90	1.92	1.92	1.92	
Depreciation / capital investment	15.9%	15%	14%	13%	12%	11%	10%	10%	10%	10%	10%	10%	10%	
Tax rate	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
Interest payable	1.60%	1.60%	1.60%	1.60%	1.60%	1.60%	1.60%	1.60%	1.60%	1.60%	1.60%	1.60%	1.60%	
ROIC	4.1%	4.5%	5.1%	5.6%	5.6%	5.6%	5.5%	5.5%	5.5%	5.6%	5.6%	5.6%	5.6%	
Payout ratio	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	
NOPAT	355	388	463	FY02/1	578	612	643	669	689	703	710	710	710	
Working capital investment	0	231	245	259	275	291	257	216	169	116	59	0	0	
Fixed asset investment	193	391	363	346	339	339	346	312	185	24	0	0	0	
Investment	193	621	607	605	614	630	604	528	354	140	59	0	0	
FCF	162	-233	-144	145	-36	-18	40	141	335	562	651	710	710	
Discount factor	0.976	0.929	0.885	0.843	0.803	0.764	0.728	0.693	0.660	0.629	0.599	0.570	0.543	
NPV	158	-217	-128	122	-29	-14	29	98	221	354	390	405	386	7,711
NPV total = business value	9,486													
Surplus cash	1,762													
Corporate value	11,248													
Interest-bearing debt	4,971													
Shareholder value	6,277													
The number of shares outstanding (shares)	10,696,320													
Stock Price (Yen)	587													
ROIC	4.6%	4.9%	5.4%	8.2%	5.9%	5.9%	5.9%	5.8%	5.7%	5.6%	5.6%	5.6%	5.6%	
ROIC-WACC	-0.4%	-0.1%	0.4%	3.2%	0.9%	0.9%	0.9%	0.8%	0.7%	0.6%	0.6%	0.6%	0.6%	
NOPAT	355	388	463	750	578	612	643	669	689	703	710	710	710	
Capital cost	193	395	427	457	487	518	549	580	606	624	631	634	634	
EVA	162	-7	36	293	91	95	94	89	83	79	79	76	76	
Discount factor	0.976	0.929	0.885	0.843	0.803	0.764	0.728	0.693	0.660	0.629	0.599	0.570	0.543	
The present value of the EVA	158	-7	32	247	73	72	68	62	55	50	47	43	41	827
The current total value of EVA	1,770													
Improvement value of future EVA	2,380													
Continued value of the current situation EVA	-610													
Beginning of the year invested capital	7,716													
Business value	9,486													
Surplus cash	1,762													
Corporate value	11,248													
Interest-bearing debt	4,971													
Shareholder value	6,277													
The number of shares outstanding (shares)	10,696,320													
Stock Price (Yen)	587													
WACC	5%													

Stock Chart (¥, past 100 business days)



On the basis of FactSet Data

Comparison with peers

Equivalent to the top-quarter profitability in the electronics

■ Comparison with the electronics component sector

Being a niche player in the electronics component sector, Mipox is difficult to compare with other companies in the sector if too much focus is given to business similarity. As Mipox is currently generating most of its value in the business related to electronics components, we have therefore made a comparison with companies of ¥2-10 billion in market cap in the electronics component sector, categorized by the Toyo Keizai classification (see table below; based on stock prices of September 14, 2016). This shows that Mipox is in the top quarter in terms of profitability and that the average PER of the companies in the top quarter in profitability is over 20 times. It would therefore be fair for Mipox to sell at PER of 20 times, as calculated by the DCF method.

Profitability of Mipox is equivalent to that of the top quarter in the sector

From a valuation perspective, Mipox is justified to sell at PER of 20 times, equivalent to that in the top quarter.

TK Code	Company Name	Previous fiscal year Actual Operating margin	The current fiscal year Plan Operating margin	Previous fiscal year Actual Year-end ROE	The current fiscal year Plan End of the period ROA	Previous fiscal year Actual PER	The current fiscal year Plan PER	Previous fiscal year Actual PBR	Previous fiscal year Actual EBITDA multiple	The current fiscal year Plan EBITDA multiple	Growth potential Sales YoY
2676	Takachihokoheki	2.2%	3.6%	2.9%	4.4%	88.3	22.7	0.66	6.5	4.1	9.6%
3131	Shinden high-tech scan	0.7%	1.2%	8.3%	3.2%	33.5	37.1	0.74	25.5	31.0	1.6%
3891	Nippon Kodoshi Corpora	0.8%	2.6%	1.4%	1.5%	155.9	214.4	0.65	7.9	6.7	12.5%
4237	Fujipureamu	5.9%	7.2%	5.8%	5.4%	15.8	12.9	0.75	7.5	6.2	5.2%
4241	Atekuto	9.5%	8.0%	2.9%	5.4%	45.9	86.1	2.47	9.2	9.9	4.5%
4341	Nishihishi Denki	1.3%	1.9%	5.1%	3.8%	23.6	13.6	0.69	7.0	5.1	6.7%
4462	Ishihara Chemical	4.8%	5.1%	3.9%	4.2%	17.7	18.1	0.62	6.6	6.8	2.4%
4970	Toyo Gosei	5.4%	3.6%	4.3%	2.3%	9.4	15.2	0.65	7.3	8.3	1.6%
5381	Mipox	12.1%	7.0%	6.1%	6.5%	9.0	9.7	0.59	2.4	2.5	33.6%
5998	Advanex	3.5%	2.5%	3.4%	2.6%	7.3	26.7	0.65	4.5	5.9	2.4%
6424	Takamizawa Saibaneti	3.1%	3.4%	9.1%	2.9%	13.7	11.5	1.05	4.9	4.6	9.3%
6513	Origin Electric	4.8%	4.5%	3.1%	3.5%	8.5	13.2	0.37	2.4	2.5	1.0%
6518	Sansodenki	3.9%	4.1%	8.6%	4.2%	4.2	4.2	0.40	2.1	1.9	5.2%
6618	Oizumi Plant	2.6%	3.5%	28.2%	5.7%	160.8	11.0	2.71	7.9	6.8	1.8%
6620	Miyakoshi Holding	46.0%	52.3%	7.1%	4.2%	12.5	21.9	1.40	19.7	18.4	-12.3%
6625	JALCOHLD	23.5%	28.6%	1.1%	2.1%	39.4	74.1	1.60	24.3	23.7	-6.1%
6626	SEMITEC	5.0%	4.4%	4.2%	4.8%	9.6	12.7	0.42	2.7	3.1	3.0%
6639	Contec	2.8%	3.3%	5.8%	4.2%	8.0	7.9	0.61	7.8	5.9	1.9%
6658	Shirai electronics indust	3.0%	3.2%	12.1%	4.4%	53.3	11.7	1.41	6.6	6.3	3.6%
6659	Media G Links	5.6%	1.3%	0.3%	1.5%	32.2	366.7	1.05	4.7	10.5	5.6%
6661	Optex Efue	5.7%	6.6%	7.7%	9.5%	16.6	13.5	1.22	7.1	4.5	11.3%
6663	Taiyokogyo	0.5%	1.1%	0.3%	1.0%	198.4	238.1	0.75	19.2	19.5	4.6%
6664	Opto-electro	7.0%	7.5%	7.4%	4.7%	6.7	7.6	0.56	6.6	6.2	2.3%
6666	River Jer Tech	1.3%	1.8%	3.6%	1.5%	75.1	NA	1.08	8.8	9.2	4.2%
6668	ADTEC plasma	8.9%	4.3%	5.1%	3.5%	9.9	29.3	1.51	8.8	15.5	-3.8%
6715	Nakayo	3.4%	5.2%	5.1%	5.0%	13.4	9.5	0.49	2.2	1.7	7.0%
6719	Fujitsu Components	1.9%	1.8%	20.4%	2.2%	6.4	9.9	1.62	6.3	6.4	2.0%
6763	Teikokutsushinkogyo	4.9%	3.8%	2.5%	2.1%	16.3	63.0	0.38	-0.0	-0.0	-6.1%
6771	Ikegami Tsushinki Co., L	1.5%	1.2%	1.9%	1.0%	38.1	37.0	0.69	10.2	10.8	2.9%
6777	santec	8.3%	8.4%	4.4%	3.9%	10.0	15.5	0.68	7.2	5.6	8.2%
6822	Oidenki	6.9%	3.3%	7.3%	3.8%	3.5	6.6	0.48	-0.4	-0.8	-7.4%
6834	Seiko Giken	7.6%	6.6%	2.2%	3.3%	17.5	18.5	0.45	4.1	4.1	4.1%
6837	Kyoutsushi	2.7%	3.8%	7.9%	5.6%	8.6	8.2	0.64	3.5	2.9	4.1%
6838	Tamagawa HLD	3.8%	5.3%	5.9%	4.9%	21.9	19.1	1.10	6.2	5.4	-1.8%
6848	DKK-TOA	9.5%	8.3%	7.2%	6.4%	9.8	13.0	0.73	3.3	4.2	0.6%
6850	Chino Corporation	3.2%	4.6%	3.5%	3.9%	30.8	19.9	0.69	5.5	4.6	3.0%
6853	Kyowa Electronic Instrui	11.9%	10.5%	9.0%	8.0%	7.6	8.4	0.75	2.9	3.1	3.3%
6863	Nireco Corporation	8.7%	8.7%	4.0%	4.9%	11.0	11.6	0.46	1.6	1.6	1.2%
6864	NF circuit design	9.3%	9.4%	6.6%	7.1%	8.4	10.2	0.54	4.7	5.2	2.4%
6881	Strong electric	3.5%	3.8%	9.9%	4.6%	32.5	9.1	0.76	5.0	4.6	2.8%
6882	Sanshadenkiseisakusho	8.5%	7.0%	5.4%	5.3%	6.1	7.1	0.39	0.9	1.1	-4.1%
6912	Kikusui Electronics	7.7%	8.0%	5.2%	5.8%	13.1	13.0	0.67	3.7	3.6	1.5%
6919	Kell	8.6%	7.7%	4.5%	5.4%	10.5	11.8	0.53	2.1	2.2	5.2%
6928	Enomoto	4.1%	4.6%	5.0%	4.3%	7.7	6.1	0.31	2.0	1.9	0.9%
6930	Japan antenna	1.4%	2.7%	1.1%	1.7%	64.5	54.3	0.35	-9.2	-9.0	2.5%
6943	NKK Switches	3.8%	4.5%	1.3%	2.6%	45.5	26.4	0.34	-1.8	-1.7	2.5%
6964	Sanko	0.2%	1.7%	1.7%	1.2%	60.6	20.2	0.27	3.1	1.9	0.3%
6998	Japan tungsten	6.2%	5.2%	7.0%	3.7%	6.5	8.2	0.49	4.1	4.7	-0.1%
7505	Fuso Dentsu Co., Ltd.	2.4%	2.1%	8.5%	3.8%	8.8	7.2	0.61	-1.7	-2.0	-1.4%
7565	Manseidenki	2.5%	2.6%	3.6%	3.3%	8.6	7.6	0.27	0.7	0.6	3.7%
7587	PALTEK	4.7%	1.0%	1.9%	2.1%	10.1	38.9	0.75	6.9	25.0	7.0%
7609	Daito Electron	3.6%	3.5%	7.7%	5.8%	7.1	7.3	0.61	1.6	1.4	5.4%
7705	GL Sciences, Inc.	5.2%	5.3%	4.7%	4.3%	8.6	8.5	0.42	3.2	2.8	4.0%
7760	IMV	15.0%	12.6%	17.6%	10.9%	5.2	8.6	1.04	4.0	5.2	2.8%
8071	Tokai electro	2.4%	2.4%	5.3%	5.0%	13.1	13.0	0.50	3.9	4.8	-0.1%
9880	Innotech Corporation	3.2%	2.9%	2.6%	2.9%	11.9	14.7	0.38	3.4	3.7	2.8%
9908	Nihondenkei	3.2%	3.0%	12.4%	5.7%	4.9	4.9	0.58	5.3	5.7	1.1%
	Average	6.0%	5.9%	6.0%	4.2%	27.8	32.1	0.76	5.5	5.9	3.0%
	maximum	46.0%	52.3%	28.2%	10.9%	198.4	366.7	2.71	25.5	31.0	33.6%
	The top 25%	7.6%	7.0%	7.4%	5.3%	32.2	22.1	0.75	7.1	6.4	4.6%
	Medium	4.1%	4.1%	5.1%	4.2%	11.9	13.0	0.65	4.7	4.6	2.8%
	The lower 25%	2.7%	2.7%	3.1%	2.9%	8.5	8.6	0.48	2.4	2.5	1.1%
	Least	0.2%	1.0%	0.3%	1.0%	3.5	4.2	0.27	-9.2	-9.0	-12.3%

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