Professional Printing Business Strategy

May 10, 2016
Seiko Epson Corp.
<table>
<thead>
<tr>
<th>Business segment</th>
<th>Printer business</th>
<th>Professional printing business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ops. Div.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market</td>
<td>Home</td>
<td>Stores, POP display producers, Print service producers, sign makers, fashion</td>
</tr>
<tr>
<td></td>
<td>Office</td>
<td>Printers &amp; large enterprise</td>
</tr>
<tr>
<td>User</td>
<td>Personal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SMB &amp; SOHO</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Retail, warehouse</td>
<td></td>
</tr>
<tr>
<td>Purpose of use</td>
<td>Personal viewing or use</td>
<td>Show or sell to others or output itself has value</td>
</tr>
<tr>
<td>Printed output</td>
<td>Photos, docs</td>
<td>Photo proofs, CAD, posters, signage, textiles</td>
</tr>
<tr>
<td></td>
<td>Business docs, forms</td>
<td>Labels &amp; textiles</td>
</tr>
<tr>
<td></td>
<td>Receipts &amp; coupons, etc.</td>
<td></td>
</tr>
<tr>
<td>Products &amp; services</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Business Overview
2. Target Markets
3. Epson's Strengths
4. Actions
5. Sales Targets and Growth Investments
Business Overview
Overview

Professional printing business initiatives in the Epson 25 Mid-Range Business Plan (FY2016-18)*

Establish outstanding competitive advantage with hardware, improve support and other organizational infrastructure, and achieve solid growth in new domains.

Provide simple, flexible inkjet manufacturing processes in new domains (signage, textiles, labels) to accelerate industry shift to digital.

* The 3-year plan announced in March 2016
Initiatives to Date

Since launching our commercial printer business in 1999, we have led the commercial and industrial printer markets in image quality and have continued to innovate and expand our customer base.

Faster, with high image quality
More convenient & easier to use
For a wider range of uses

Technological innovations in printheads, etc.
Improved usability & support
Wider support for ink & media

Epson leverages image quality to lead existing markets

And we are developing new domains.

Signage
Textiles (dye-sublimation, DTG, DTF)
Labels

Photo & Graphics
A2/A3 graphics
Photo/ proofing
Minilabs
Corporate (CAD, GIS, posters)

GIS: Geographic Information System
DTG: Direct to Garment, DTF: Direct to Fabric  *See page 27 for details.
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunities</strong></td>
<td>◆ Growth of digital printing market (signage, textiles, labels) due to a shift from analog systems in commercial &amp; industrial printing</td>
</tr>
<tr>
<td>Targeted markets</td>
<td></td>
</tr>
<tr>
<td><strong>Strengths</strong></td>
<td>◆ Improved inkjet technology to enable commercial and industrial digital printing (including production engineering and patents)</td>
</tr>
<tr>
<td>Accomplishments under SE15</td>
<td>◆ Built a vertically integrated business model</td>
</tr>
<tr>
<td></td>
<td>◆ Main strengths in each area (currently)</td>
</tr>
<tr>
<td></td>
<td>▶ Brand power in photo and graphics printing</td>
</tr>
<tr>
<td></td>
<td>▶ Expertise and insights in textile printing (M&amp;A and alliances)</td>
</tr>
<tr>
<td></td>
<td>▶ Highly competitive products in the label printing (PFU)</td>
</tr>
<tr>
<td><strong>Issues</strong></td>
<td>◆ We were unable to provide the value sought by customers due to a weak lineup and lack of knowledge in growth markets.</td>
</tr>
<tr>
<td>Things not achieved under SE15</td>
<td>▶ Insufficient product competitiveness in the signage printing</td>
</tr>
<tr>
<td></td>
<td>▶ Slow to expand sales territory in textiles (DTF)</td>
</tr>
</tbody>
</table>

PFU: Print for Use  * See page 34 for details.
DTF: Direct to Fabric  *See page 27 for details.
Target Markets
Target Market Size

As the $33 billion (approx. 3,500 billion yen) global market goes digital, Epson will lead the printing industry’s transition with inkjet technology.
Digital Market Forecast, Market Value (Printers + Ink) Basis

There is huge room for growth in signage, textile, and label printing

Growth markets
Analog printing will remain, but the digital market will steadily expand (CAGR +9%)

Existing markets
Will remain steady

Source: Epson, global data
Changes in the World and in Customers in Growth Markets

Changes in the world: Transition to digital printing accelerating
- Diversification of needs & expansion of short-run print jobs
- Diversification of design. Pursuit of individuality & differentiation
- Heightened sensitivity to the environment and costs

Customer changes: Commercial & industrial printer requirements
- Increase in short-run print jobs
- Print high-quality, complex designs
- Simple, highly productive systems

Epson will fully support customers in the transition to digital printing by taking advantage of the collective strength of the value chain, extending from key component development to design, manufacturing, sales, and service.
Establish outstanding competitive advantage with hardware, improve support and other organizational infrastructure, and achieve solid growth in new domains.

**Existing markets**
Provide new products & services that meet customer requirements while maintaining high market share

**Growth markets**
Provide simple, flexible inkjet manufacturing processes to accelerate industry shift to digital.
Epson's Strengths
Thinking Underlying the Strategies

Provide value that exceeds customer expectations by using vertical integration to gain additional leverage on core technologies and devices

- PrecisionCore
- 3LCD, laser light source
- Sensors
- Robotics, etc.

Original core technology & device development

Vertically integrated business model

- Planning: Planning and designing innovative products
- Design: Products
- Manufacturing: High-precision manufacturing
- Sales: Responding sincerely to customers’ opinions

Voice of the Customer

Use resources efficiently and expand the customer base (domains)
PrecisionCore Advantages: Basic Performance

- Thin-film printheads manufactured using precision MEMS fabrication technology that faster and offer better image quality than conventional inkjet printheads
- Proprietary production engineering, patents, etc., make it hard for competitors to keep pace

**Heat-free, mechanical control**

- **Ink compatibility**: Wide range of ink options and potential applications for home, office, commercial & industrial uses

**Precise, accurate ink droplet control**

- **Durability**: High durability makes PrecisionCore printheads ideal for office, commercial, and industrial applications
- **High image quality**: Superior gradations are achieved by using technology such as multi-size dot technology (MSDT).
- **Fast**: A single nozzle can eject up to 50,000 ink droplets per second
Print chips can be used as basic modules to build low-cost printheads with different configurations, from lineheads for label production systems to heads for office printers.
**Compatible with Ink for Almost Any Application**

- PrecisionCore printheads are compatible with a wide range of inks
- Ink compatibility allows expansion into various customer applications

<table>
<thead>
<tr>
<th>Category</th>
<th>Photo &amp; Graphics</th>
<th>Signage</th>
<th>Textiles</th>
<th>Labels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inkjet printheads</td>
<td>PrecisionCore or conventional Epson printheads</td>
<td>Eco-solvent</td>
<td>Dye-sublimation, acid, reactive disperse, pigment</td>
<td>Water-based resin, UV</td>
</tr>
<tr>
<td>Ink type</td>
<td>Water-based pigment and water-based dye</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ink characteristics</td>
<td>Beautiful image quality Water-based, so easy to handle</td>
<td>Ideal for PVC film</td>
<td>Good color on fabric, waterfast, laundry resistant</td>
<td>Media versatility, fast prints</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PrecisionCore—Advantages Over Competing Piezo Systems

Epson’s thin-flim piezo technology allows us to increase printhead resolution without decreasing actuator displacement and drop size. PrecisionCore can be optimized for any ink used in commercial or industrial applications to achieve outstanding image quality at high speed.

**Advantages over competing piezo systems**

1. Outstanding nozzle performance (high density and durability for high productivity and amazing image quality)
2. Scalability (build the best printhead for the application using print chips)
3. Volume-produced by Epson to maximize quality stability & minimize cost

**PrecisionCore vs. conventional inkjet**

<table>
<thead>
<tr>
<th></th>
<th>Conventional inkjet system</th>
<th>PrecisionCore MicroTFP printhead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution (nozzles per inch)</td>
<td>180 npi</td>
<td>300 npi</td>
</tr>
<tr>
<td>Nozzle line length</td>
<td>25.4 mm</td>
<td>33.8 mm</td>
</tr>
<tr>
<td>Nozzles per line</td>
<td>180</td>
<td>400</td>
</tr>
<tr>
<td>Drop size</td>
<td>1.5 - 32.5 picoliters</td>
<td></td>
</tr>
<tr>
<td>Operating frequency</td>
<td>Up to 50 kHz</td>
<td></td>
</tr>
</tbody>
</table>
Strength of Business Infrastructure

Provide products & solutions that capitalize on PrecisionCore

Planning and designing innovative products

• Expand the platform design concept into various applications

High-precision manufacturing by Epson (heads & hardware)

• Achieve low total cost of ownership (TCO), incl. maintenance, with quality, low-cost heads
• Optimize production in line with product characteristics
• Share technology & expertise accumulated in internal production to increase production efficiency and quality while reducing costs

Responding sincerely to customers’ opinions

• Expand global sales sites that handle home, office, commercial, and industrial applications
• Improve new products based on customer needs and feedback
• Provide suitable designs, software, and usability for applications

Example of technology for achieving high image quality

New frame structure & Advanced Auto Tension Control (AD-ATC) for accurate, stable media-handling
  * Use in products announced in Japan on 5/10

Paper Feed Stabilizer:
CMOS sensor real-time feedback improves precision in high speed media feeding
  * Use in products announced in Japan on 5/10
Strengthening Business Infrastructure

- Consolidated the commercial & industrial printer businesses in April 2015

Commercial inkjets
POS and inkjet label printers
Industrial inkjet press

Achieve the high performance demanded by the market and speed up the product commercialization process and business operations by combining Epson's technology, development capabilities, resources, and customer knowledge.
Actions

- Existing market
  - Photo and Graphics
- Growth markets
  - Signage
  - Textiles
  - Labels
Initiatives in the Photo and Graphics Markets

- The markets for photo and graphics are stable, but aim to expand sales with new products equipped with new heads and ink that satisfy strict requirements for high image quality.
- Maintain a high share in photo-related applications (graphics, photos, proofs, minilabs).
- Take advantage of high image quality to develop high-print-volume corporate applications.

### Markets

- **A2/A3 graphics**
  - Market: ~180 k units
- **Photos/ proofs**
  - Market: ~40 k units
- **Corporate (CAD, GIS, posters)**
  - Market: ~170 k units
- **Minilabs**
  - Market: ~30 k units

Source: Epson, global data

- Lots of room for development
- Progressively shift to IJ from silver-halide
Photo & Graphics: Products

**A2/A3 graphics**

- Maintain a high market share by further improving color reproduction & rendering of shadow detail to meet the image quality requirements of professional and demanding amateur photographers

**Photo proofing**

- Further expand sales by launching products that provide high throughput in addition to excellent image quality with a wide color gamut and high color density
- New products announced

![Printers and Photos]

**Print size:** A2/A3, water-based pigment, 8 & 10 colors

**Print width:** 17”/24”/44”/64”, water-based pigment, 8 - 10 colors
**Photo and Graphics: Products**

**Corporate**
- Taking advantage of image quality know-how fostered in photos and proofing, reinforce sales development by expanding the lineup, taking into account customer requirements and applications in the field.

**Minilabs**
- Offer great image quality at a low TCO, and replace silver-halide and dye-sub with inkjet.
- Reduce photo lab downtime with high reliability and operation stability.

---

**Print width: 24"/36"/44", water-based pigment, 4 colors**

- SC-T3200
- SC-T52MFP
- SC-T7200D

**Print width: 4"- 8" & 4"- 12", water-based dye, 6 colors**

- SL-D700
- SL-D3000
Initiatives in the Signage Market

- Robust demand for signs and displays supporting steady market growth
- Sign and display printers require products that are reliable, productive, low-cost and reassuring
- Expand sales and share by meeting customers' expectations for high image quality & stable operation at low TCO
- Continue sales of LFP components and capture opportunities for market expansion (*including for textile printers)

Market: ~40 k units

Epson's share

Lots of room for development

Source: Epson, global data
Signage Printing

- Leverage our strength in image quality to help signage customers expand their business
- Improve market-proven eco-solvents, and offer high image quality and low running costs
- Expand sales with new products that offer outstanding print quality, color, stable operation, productivity & low TCO

Features of new products

1) High-quality output
   - Wide gamut
   - Reduced banding
   - Low graininess
2) High productivity
   - High-speed printing
   - Low-pass image quality
   - High-speed drying
3) High reliability
   - Fabric wiper system
   - New stable feeding system

Print width: 64”, eco-solvent, 4 colors and 9 - 10 colors
Initiatives in the Signage Market: Sales and Service

- **Expand the sales & service network**
  - Strengthen relationships with global sales partners and sales channels
  - Launch reliable new products, enhance manufacturer warranties, and offer reassurance

- **Have major accounts do beta testing**
  - Earn a strong reputation by having major accounts in Europe, the U.S., and Japan use our new products on a trial basis in their actual applications, with their media, and in the actual operating environment
Textile Market Situation

The market is rapidly growing with replacement of analog printing and the emergence of new business categories and services that capitalize on the advantages of digital printing.

Digital textiles

- **Direct to Garment (DTG)**
  - Images printed directly on T-shirts, etc.
  - **Cotton**
    - T-shirts, sweatshirts
    - Bags
  - **Polyester fabric**
    - Sports wear
    - Soft signage
    - Interior decor

- **Dye-sublimation**
  - Images printed on transfer paper are transferred using heat
  - **Polyester fabric**
    - Sports wear
    - Soft signage
    - Interior decor

- **Direct to Fabric (DTF)**
  - Images printed directly on fabric
  - **General textiles**
    - Order-made garments
    - Luxury brands
    - Fast fashion

Market: ~30 k units

Source: Epson, global data
Textiles: The Situation in Analog Textile Printing

- Color paste (ink) is created by mixing materials prior to printing, and special colors are blended depending on the design.
- Plants are smelly, hot and dirty, and have cleaning baths for processing large volumes of waste fluid.
- A large space is needed to store plates (some of which are left outdoors)

Production of color paste → Color kitchen (prepared liquid) → 10%-20% more ink paste prepared than is needed → Screen printing → Screen cleaning → Store huge numbers of plates
Textile Market Initiatives

- Inkjet digital printing can be used for a wide variety of goods, from apparel to small personal items and interior goods.
- Dye-sub printing has a wide range of uses, and the market promises to expand.
- Leverage outstanding image quality and productivity to expand share in markets we have entered, and develop potential new markets.
Aim to expand sales in response to an increase in short-run digital print jobs for events, team uniforms, etc.

- Bags
- T-shirts
- Sweatshirts

Print sizes: 16” x 20”, textile pigment, 4 colors + white
Textile Printing: Products

Dye-subsitimation

- Provide textile printers and apparel manufacturers with reliable solutions that offer high productivity and low TCO
- Increase productivity and strengthen black density in response to customer demands, and expand digital textiles

- Sportswear
- Apparel
- Soft signage
- Accessories
- Decor

SC-F6200

SC-F7200

Print width: 44”/64”, dye sub, 4 colors (high-density black)
Textile Printing: Products

**DTF**

- Take maximum advantage of the expertise of For.Tex (made a 100% subsidiary in 2015) to provide the industry's highest quality digital textile printing processes and expand sales in luxury apparel.
- Collaborate with Robustelli to launch digital textile printers that have high throughput and a low environmental impact to accelerate the adoption of digital processes by traditional printers and to expand in general apparel and interior goods.

Monna Lisa Evo Tre: 3rd-generation Monna Lisa with PrecisionCore

Monna Lisa Vinci: Raise productivity while preserving Monna Lisa's reputation for great image quality.

Both demonstrated at the International Textile Machinery Exhibition (ITMA) (Nov. 2015)

Print width: From 74"; acid, reactive dispersion & pigment inks, 8 colors or more

*Reference exhibit*
Textile Market Initiatives: Development, Sales and Service

◆ **Strengthening sites in Europe**
  • Strengthen development & collaboration to meet customers' image quality and fabric requirements

◆ **Strengthen sales organizations in China, Southeast Asia, etc.**
  • Develop multiple sales partners and sales channels
  • Strengthen the direct approach to major apparel companies & textile manufacturers

Textile Solutions Center
Jointly established with For.Tex
April 2014

International Textile Machinery Exhibition (ITMA)
Joint exhibit with For.Tex & Robustelli
Nov. 2015
Digital printing is growing on increased demand for color labels in short-run custom print jobs.

**Print for Use (PFU)**
- End-consumers print secondary labels
- ✓ High image quality and high-end feel
- ✓ High-speed printing

**Print for Pay (PFP)**
- Label printing companies print a variety of primary and secondary labels
- ✓ High quality output
- ✓ Efficient workflow
- ✓ Superior economic efficiency

**Market: ~30 k units**

Source: Epson, global data
Expand the number and range of label-making applications and increase sales by taking advantage of the ability to print on demand, in-house, and in color, by adding greater media support and functions, and by launching easy-to-use products.

Print width: 4", water-based pigment, 4 colors

Use PrecisionCore lineheads to achieve max. speeds of 300 mm per second.
Label Printing: Products and Initiatives

PFP applications

- Answer short-run label printing needs with an efficient workflow, high-quality output, excellent economic efficiency, and media versatility
- Support digital printing with direct sales and direct service to help customers generate profit and achieve stable operations

Print width: 13”, water-based resin: 8 colors, UV: 6 colors

More than 200 machines in the field
Sales Targets and Growth Investments
Approach to Sales Targets and Growth Investments

Professional printing business revenue targets

FY2015 actual  ¥201.6 billion*1
FY2018  +15% growth*1
FY2025  At least double revenue in the industrial market*2

*1 Including POS printers
*2 The industrial market includes professional printing, high-brightness projectors, robots, etc.

Growth investment
Sustain or increase strategic investment in future growth during the period of the Mid-Range Business Plan (FY2016-2108).

- **Capital expenditure:** Increase due to increased production of PrecisionCore heads & new product launches, etc.
- **R&D:** Aggressively invest in new product and key component development
- **M&As:** Proactively take advantage of opportunities necessary to speed up business expansion.
Everything Printed by Epson

- Signage
- Textiles & garments
- Labels & packages
- Posters, POP, CAD
- Pro photo & prosumer
- Commercial photo
- Home photo & documents
- Business documents
- Flyers, catalogs, DM
- Receipts & forms
- Books & magazines
- Vehicle wrapping

Everything Printed by Epson