dsc

digital
stationery
consortium

Pen on Paper is Getting Smarter:

How the stationery industry can benefit from universal digital ink technologies

Writing it down is just the beginning

From the earliest cuneiform tablets, the history of writing has always been an ongoing effort to more effectively express and record meaning with hand, instrument, and writing surface. That evolution continues today as the stationery industry explores new growth by extending the reach of pen and paper through the use of digital technology.

Recent developments in digital ink, cloud-based storage, and artificial intelligence (AI) are enabling writers to have their pen strokes reach beyond the paper they appear on, bridging the divide between the physical and digital worlds and opening new opportunities to communicate and share ideas.

natural writing

Natural Ink: As easy and fast as with pen on paper.

While some traditional stationery products companies have already ventured into the realm of digital stationery, others have not due to the number of proprietary solutions and the lack of compatibility among them. This has limited innovation and new growth opportunities.

Writing a new chapter

To overcome this barrier, the Digital Stationery Consortium (DSC) is developing a universal framework that ensures that pen strokes can be captured in a sharable, editable smart data format that all digital ink solutions can share. The DSC's Work Groups are collaborating with experts from a wide range of industries to unleash the value of digital ink-enabled products and services to improve productivity and better serve their customers.

| IMAGINE	CREATE	DEVELOP	SHARE
Convey personality	Enhance productivity	Hardware	Capture
Feel the moment	Make art	Software	Collaborate
Envision new worlds	Streamline workflows	Bridge digital & analog worlds	Cross boundaries of geography & technology

Digital stationery experiences enabled by universal digital ink technology

The opportunities for the stationery industry

The global writing instruments market is large and growing. One recent research report predicted that the market will reach $24 billion by 2025.[1] Digital ink solutions can further that growth by enabling writing instruments to do more. Opportunities for the stationery industry include:
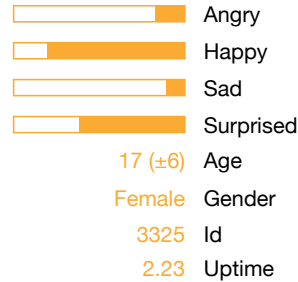

WILL multimodal input

Digital stationery experiences that take advantage of digital ink technology and multimodal input would be able to record, analyze and present a broad range of data in real time – from timestamps to geolocation, emotional and handwritten data – offer a vast potential across a broad range of industry sectors, from education to science. (Image Courtesy of Wacom)

Expanding the power and range of fine writing instruments. Today, most high-end pens are limited to writing with ink on paper. Digital ink will enable stationery products manufacturers to produce new fine writing instruments that let users express their personalities in writing on either conventional paper or e-paper. Using artificial intelligence, digital ink technology can not only recognize handwritten words, but also semantically interpret what a drawing or word means – for example, recognizing common objects in a hand-drawn electronics circuit design and creating a clickable hyperlink to that object online.
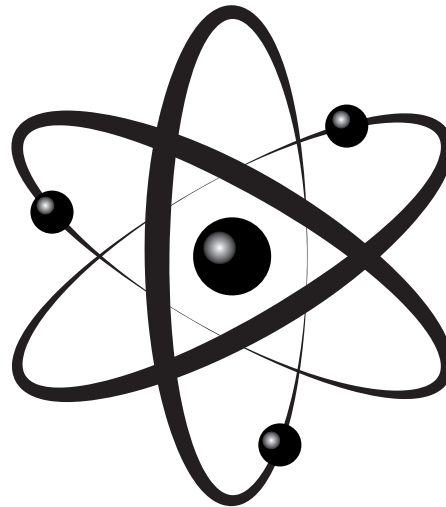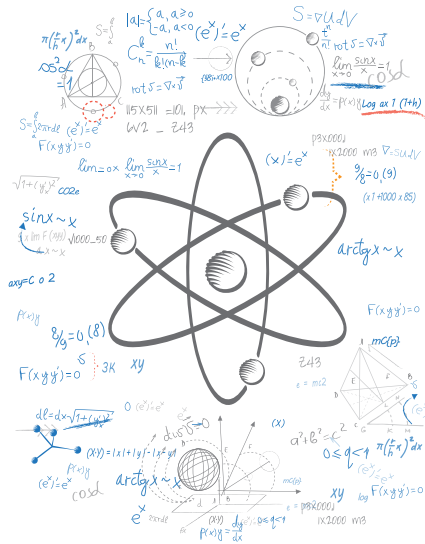
Common symbols and diagrams hand-drawn with digital ink and aided by AI could enable digital stationery applications to interpret the drawing and digitally render the correct diagram. (Image courtesy of Wacom)

Giving architects, artists, and designers a free hand to express themselves. Many artists and architects prefer to produce their work through manual sketching rather than computer-based drawing tools. The use of

artificial intelligence - or more specific machine learning - can train digital ink technology to adapt to the artist's style and understand drawn objects – for example, knowing that a rectangle sketched on an architectural drawing represents a window, then converting that drawn image into a window in a CAD building design.

Future digital stationery applications could take advantage of digital ink-enabled painting and drawing with any stylus pen and on any tablet. (Image courtesy of Wacom)

Enhancing learning for students. Digital ink will enable teachers teaching complex subjects to draw their ideas and have their drawings come to life to illustrate key points. Another important application is note-taking. With digital ink technology, note-taking can capture more than just a lecturer's remarks. The implementation and integration of artificial intelligence in writing and drawing systems will enable semantic understanding of handwritten notes, triggering actions (such as adding future test dates to a calendar) or identifying an online resource and creating a clickable link to more information.

Coming together to enable change

Digital ink technology offers new opportunities for stationery products companies to expand their product capabilities and deliver new value to customers. The adoption of a universal, open and smart content format and a common framework for sharing and collaborating with digital ink will greatly expand these benefits. The DSC is working to lead this effort based on WILL™ digital ink.

We invite others to join the DSC to shape how digital ink innovations become part of a larger digital stationery market. All companies interested in the digital ink ecosystem are encouraged to become DSC members. DSC membership levels, Contributors and Promoters, are open to companies across any business vertical. Digital stationery-focused technology start-ups and academic entities are invited to apply for a free, one-year Promoter member application. Once approved, the Promoter membership fee is waived for the first year, and members can participate in DSC's technical and educational efforts via the consortium's Work Groups. Members receive access to WILL™ technology as well as the opportunity to become involved in various membership initiatives, Work Groups, and member-only meetings.

About the DSC

The Digital Stationery Consortium is an association of global industries and thought leaders with the shared mission to advocate the value of human creativity and to lead the creation of a new market category of smart digital stationery solutions that serve creative minds naturally and intuitively. Contributor members, who also represent the DSC Board of Directors, include E Ink, Fujitsu Client Computing Limited, Montblanc, Samsung Electronics, and Wacom.

The consortium's focus is to establish digital ink as a universal, open and smart content format and a common framework for sharing and collaborating with ideas based on WILL™ digital ink. For more information about DSC and its membership benefits, please visit http://digitalstationeryconsortium.org.

Endnotes

1   Persistence Market Research, Global Market Study on Writing Instruments: Pen Product Type Segment to Record the Highest Value and Volume CAGR During 2017 - 2025, August 2017