

RECYCLED PAPER ON DEMAND

An innovative dry recycling technology gives old sheets of paper a new leaf of life – on site.



PaperLab A-8000
PHOTO: COURTESY OF EPSON

TAKASHI SASAKI

IN December 2016, the PaperLab A-8000 - the world's first*¹ dry-process office papermaking system - was introduced to the market. Because used paper generated in offices often contains confidential information, it is common to outsource the disposal process to a paper recycler. This new product was developed by Epson (Suwa, Nagano Prefecture), a manufacturer known mainly for products such as inkjet printers and projectors. PaperLab is an epoch-making product that produces



PaperLab A-8000 produces new paper using office waste paper as a raw material after completely destroying all document information
PHOTO: COURTESY OF EPSON

new paper using office waste paper as a raw material after completely destroying all document information. Shigeo Fujita, manager of the PaperLab Business Project at Epson, explains the story behind the product development.

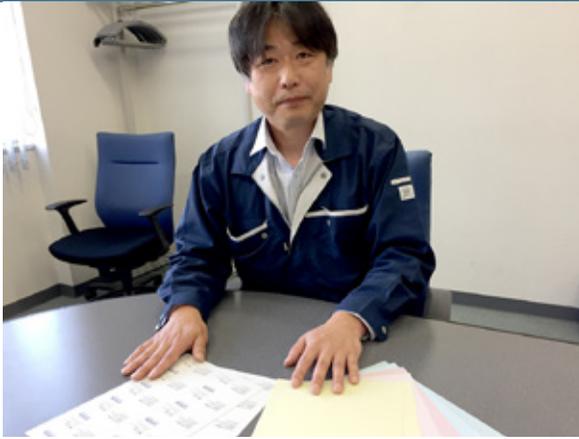
“One of our main products is inkjet printers for office and home use. Paper used for printing is a limited resource, however. As a manufacturer dealing with paper, we believe that we need to make a significant contribution to a Sound Material-Cycle Society more than ever,” says Fujita.

Portable and ideal for writing down notes and ideas, paper is an indispensable tool for enhancing creativity and memory. On the other hand, however, a certain amount of space is required to store large quantities of paper documents and there is also the potential danger of information leaks.

“How can we eliminate people’s concerns about these negative aspects of paper use and encourage them to use paper? The PaperLab office papermaking system was created to solve this issue,” Fujita explains.

Whether it is high-quality paper that does not use any recycled materials or recycled paper, one cup of water is generally required to produce a single A4 sheet of paper. Office environments, however, are not equipped with sufficient water supplies to produce paper. For this reason, Epson used its own original mechanism to develop a new technology called Dry Fiber Technology, which does not require

*1 As of November 2016, it is the world's first dry-process office papermaking system (according to Epson).



Shigeo Fujita, manager of the PaperLab Business Project at Epson
PHOTO: TAKASHI SASAKI



Used paper broken down into cotton-like fibers
PHOTO: TAKASHI SASAKI

water*² in the papermaking process - this is the most prominent feature of PaperLab.

According to Fujita, PaperLab applies mechanical pressure to used paper to break it down into paper fibers. This process completely destroys all document information. It then adds binding materials to the defiberized material, applies pressure, and forms the material to regenerate new paper.

“Every process - including defiberizing, binding, and forming - is entirely different from the conventional papermaking method. This was why we had to go through a lot of trial and error in research and development. Furthermore, we had to take full account of usability and safety for customers when using it as office equipment. All of these requirements took us five years from the beginning of the development phase to the product launch.”

Despite its compact size, with a width of less than three meters, PaperLab can produce about 720 sheets of A4 paper per hour, that is, one sheet every five seconds. It costs 0.45 yen (0.0044 US dollars) to make one piece of A4 paper*³, while one piece of A4 copy paper sells for about 0.45 yen to 0.7 yen. Moreover, by adding color to the binding material, the user can produce various types of colored paper. It

is also possible to make thick paper used for business cards and more.

“A large amount of paper is consumed in offices. If you can produce the required amount of paper as you need it in your office, you can significantly reduce the amount of paper you purchase. You can also cut down on the transportation needed for the procurement of new paper and recycling. This contributes to the reduction of CO2 emissions. PaperLab is also highly appreciated by people in charge of managing corporate information because it allows them to recycle used paper without taking it out of the office,” Fujita says.

Private-sector companies and local governments in Japan have now started to introduce PaperLab. The cities of Shiojiri and Suwa, where some of Epson’s large offices and plants are based, introduced PaperLab at an early stage, with mayors of both cities using business cards made by PaperLab.

Since PaperLab was announced to the public, the company has received numerous inquiries from overseas, including European countries, which are known for their high environmental consciousness, and India and the Middle East, where water is a precious resource.

In the era of digitization, paper will continue to be an indispensable medium for our communication. PaperLab suggests the possibility of bringing a completely new value and future to paper. The considerable interest in PaperLab, both at home and overseas, is indicative of a strong interest in the environment. 

*² It uses a small amount of water to maintain a certain level of humidity inside the system.

*³ This includes only the cost of the expendable Paper Plus binder. It does not include the amortization of PaperLab A-8000 or electric and water bills.