

# The Owl & Minerva

**We recently visited Fujifilm's Advanced Research Laboratories in Kanagawa, Japan to learn more about the company's plans for its future. This is the story of how one of the graphic arts industry's most significant players is reinventing itself, and it reflects as well how the printing and publishing industries are changing.**

So what do the owl and the Roman goddess of wisdom have to do with the graphic arts? The owl is synonymous with knowledge and Minerva, apart from her knowledge credentials, was also the goddess of poetry, commerce and craft. Fujifilm chose these symbols to figure large in its research ethic. The two daily greet 800 boffins as they come into work, reminding them that wisdom, courage and creativity are the foundation of their collective future.

Two themes run throughout this tale: the environment and partnership. The environment is Fujifilm's foundation for its own future and shapes Fujifilm's market perception as it develops new revenue streams, particularly using digital printing technology. According to Masaya Seki, operations manager for the Graphic Systems division's marketing group, environmental responsibility is part of what defines Fujifilm because our "overarching aim is to improve peoples' lives". This might sound a little over-egged, however the company is putting into practice what it preaches.

Fujifilm has been in business for over 70 years during which time it has pioneered developments in photocopying, printing plates, digital cameras, LCDs and X-ray imaging. However changes in world markets demand changed business models, as most developers of graphic arts technologies have found. One of the most visible changes for all businesses in mature markets is the need to prove their environmental credentials and demonstrate commitment, and for the printing industry it's no different. For Fujifilm this means creating environmentally benign products and supporting international initiatives for a future based on green ethics. Its Design for Environment and Lifecycle Assessment initiatives for instance, ensure a minimal environmental impact of Fujifilm products, starting with design and ending with their eventual disposal.

## Green Machine

Fujifilm's green policy was established in 2002 and the company claims to be second to none in its commitment to sustainability and the environment. In this it is probably right, at least as far as the printing industry goes: Fujifilm is listed on the FTSE4Good Index and the Dow Jones Sustainability indices. The FTSE4Good uses a series of measures to evaluate the performance of companies meeting globally recognised standards of corporate responsibility. The Dow Jones Sustainability listing similarly



*Fujifilm's Advanced Research Laboratory in Kanagawa, Japan.*

tracks the financial performance of the companies committed to sustainability worldwide.

In addition to the Design for Environment and Lifecycle Assessment initiatives, Fujifilm is working towards a 20% reduction in energy consumption by 2010, converting from oil to natural gas. In 1983 the company set up the Fujifilm Green Fund investing one billion yen “to provide support for preserving the natural environment”. Fujifilm has also contributed \$9m to the World Bank’s community development Carbon Fund.

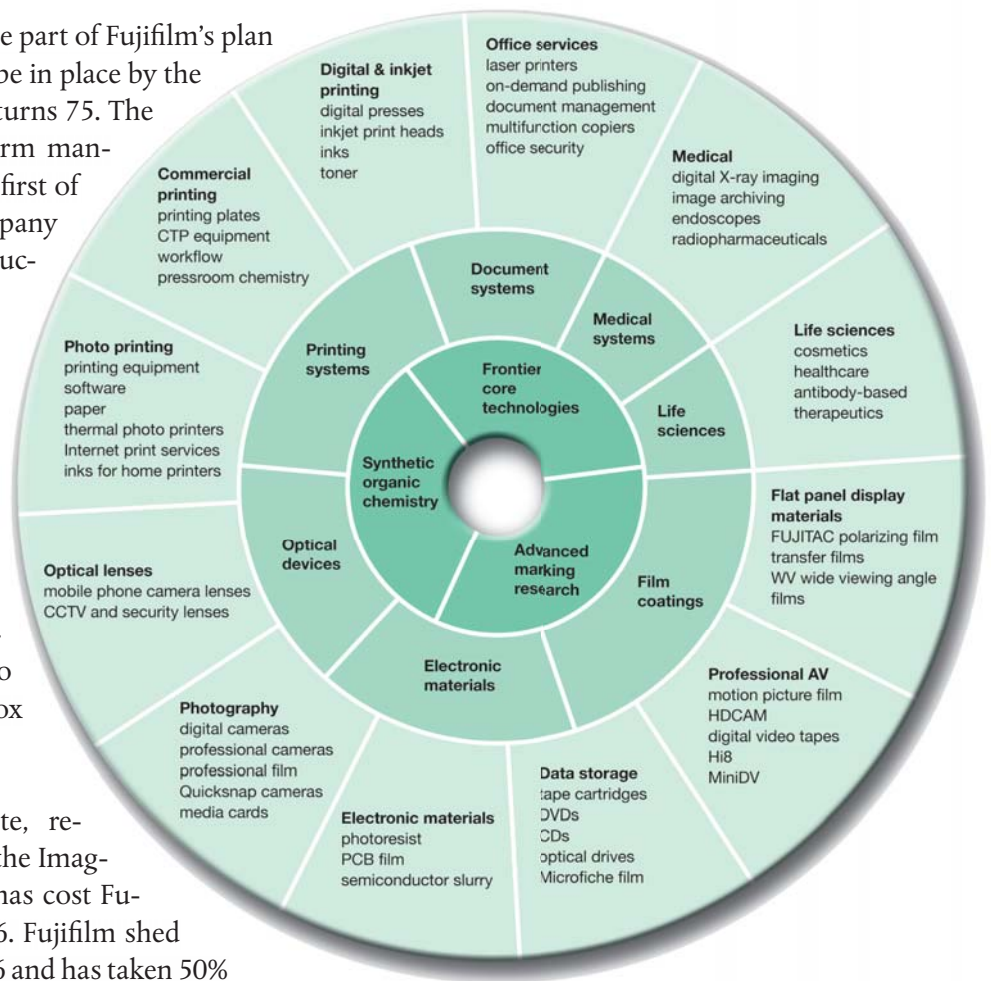
## Fujifilm’s Grand Plan

These environmental initiatives are part of Fujifilm’s plan for its ‘second foundation’ due to be in place by the end of fiscal 2010, when Fujifilm turns 75. The company’s Vision 75 medium term management plan has four stages, the first of which is to create a holding company and optimise the management structure, which has now been done.

Fujifilm has gone from being a sprawling company with between ten and 12 subsidiaries to being a holding company with only two operating companies: Fujifilm and Fuji Xerox. Each of these has various subsidiaries for which they are directly responsible. Of Fuji Xerox, 75% belongs to Fujifilm and the balance to Xerox Limited in the UK.

Structural reforms for corporate, research and development, and for the Imaging Solutions division especially has cost Fujifilm 202.5 billion yen since 2006. Fujifilm shed 5000 positions over 2005 and 2006 and has taken 50% out of fixed costs, helping the company’s ratio of income to revenues to reach 4.1%. Structural reform has also substantially reduced variable costs and Fujifilm is achieving comparable profitability. The company is prioritising key growth areas, including the graphic arts and the rest of the company’s Information Solutions division’s activities. The division contributes 36.9% of overall revenues and has 2007 revenues of €6.54 billion. Of this, 28% came from the graphic arts, a 9% improvement over 2006. Document Solutions accounts for 41.4% and Imaging Solutions 21.7%.

Fujifilm’s Vision 75 plan has a Q1 2008 revenue target of €1.6 billion, for the Information Solutions division, up 12.2% over Q1 2007. This is expected to yield a 114.9% increase in operating income to €213m. The



This diagram shows how Fuji’s activities fit into its corporate structure.

▼ graphic arts, the division's largest component, is expected to generate €481m in revenues. In contrast the Document Solutions division's Q1 2008 revenue is expected to be €1.78 billion, with €104m operating income.

This year Fujifilm has invested €0.13 billion into research and development, 77% of it for Information Solutions, a contribution that is expected to rise. Fujifilm is also investing in infrastructure, research and development and mergers and acquisitions to fuel growth based on leveraging existing expertise and developing new technologies. Flat panel displays, electronics, printing plates and inkjet materials are just the start. The company is positioning itself to do business in medical and life sciences markets as well as the graphic arts, document solutions and optical devices.

Fujifilm is strengthening its manufacturing operations, with all four Fujifilm factories now ISO 14001 accredited and all with programmes in place to reduce energy consumption and waste. The company has invested in production capacity particularly for its LCD business. This technology is used for a range of applications such as car navigation, camcorders, televisions, mobile phones, PC monitors and notebook PCs. By the end of 2009 Fujifilm expects to be producing 60m square metres of the stuff at its Shenzhen plant in China. Growth in the mobile phone business will also benefit Fujifilm's sales of optical devices because its lenses are used in many camera phones. They are also used in security cameras, another booming area.

For the graphic arts and printing industries, Fujifilm is maximising the synergies of its recent acquisitions, including Sericol (inkjet and screen printing ink suppliers), Dimatrix (manufacturers of industrial inkjet heads) and AVECIA (manufacturers of ink dyes for inkjet printers), to develop high speed inkjet presses, and is expanding its existing inkjet product line with two new machines. There will be an entry level engine to sit below the UV Acuity with a lower price and equivalent output speed. The second new machine sits between the UV Inca Spyder and Fujifilm's solvent Vybrant, so it will have equivalent speed to both but be cheaper than a Spyder.

On the basis of these technologies and new research, Fujifilm is set to grow its existing business rapidly moving into wide format applications such as displays, banners, point of purchase, and industrial printing. It is leveraging analogue expertise in conventional offset to develop technologies for variable data printing; the packaging market is also on the map. Through its collaboration with Xerox, Fujifilm will tackle the transaction, catalogues and sheet fed direct marketing markets, plus photos and books. Besides restructuring and investment, Fujifilm's digital growth in the graphic arts market is built on synergies within its market, most notably photo labs, commercial and screen printing, and investing into its sales network accordingly.

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## Sales Channels

Fujifilm's most obvious foundation for sales network development is via its relationship with Xerox. It is fostering synergies between the two organisations such as developing document management software services that maximise growth for multifunctional devices in the Asia Pacific region. Fujifilm's research and development focus reflects this interest in synergy with new inkjet solutions and active allocation of resources between the two companies to optimise sales channel support according to the needs of different markets. Technology, available resources and local market demands shape Fujifilm's sales channel development.

In Asia Pacific, Fujifilm's channel is Fuji Xerox and it works with Xerox Corporation elsewhere on an alliance basis. Together Fujifilm and Xerox are actively balancing their respective interests in both the commercial printing market and the high speed transactional markets everyone is so keen to capture.

It is too early to say how sales of Fuji Xerox engines in the UK, where Fuji Xerox's other owner is based, will work. The Xerox Ltd sales and marketing engine is a formidable beast, so Fujifilm will likely provide support where needed but is unlikely to develop alternative sales channels. It's much more sensible for the two to cooperate rather than compete. We'll know soon enough because Fujifilm has said that it expects to start selling inkjet technology to commercial printers in the UK towards the end of the year. The two companies will present together at drupa and according to Fujifilm UK's managing director Keith Dalton "by drupa we'll have a much stronger alliance"

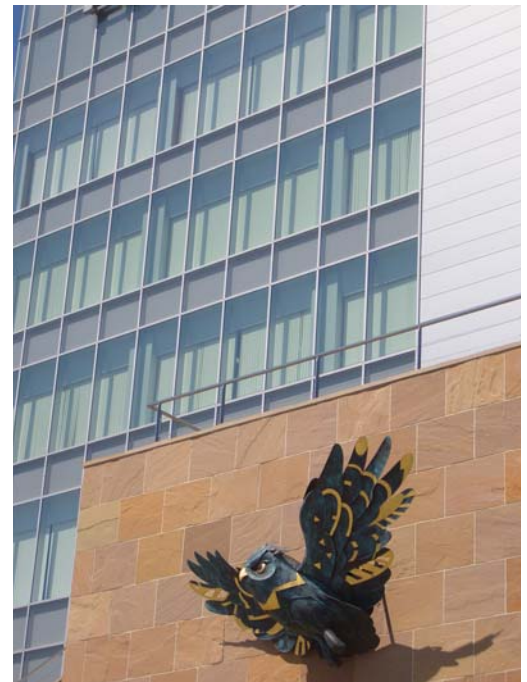
## About Those Laboratories

Fujifilm's Advanced Research and Development Laboratory cost Fujifilm over €100 million to build and was opened March 2005. It is organised to encourage cross fertilisation of ideas and expertise and can hold 1200 people. There are many different labs within the facility dealing with all sorts of stuff including graphic materials research. It has a zero carbon footprint, using solar power (which reduced Fujifilm's energy consumption by 4%) and recycling all water.

Fujifilm understandably won't say how many patents have been filed since the facility opened, but Fujifilm has over one hundred people employed to manage its intellectual property worldwide and 30 of them are based in Kanagawa. There are also around 30 Fuji Xerox people working on technologies relating to colourants on substrates in Kanagawa. Those working in this plant are encouraged to develop their ideas without the conventional pressure for filing patents because Fujifilm believes this would compromise their creativity.

## Wisdom, Courage, Creation

Everything at the site is designed to create an environment that fuels ideas and creativity. The facility has 56,000 square metres, with plenty of open



*Fujifilm's owl keeps an eye on the boffins at work.*

▼ space and a 3000 m<sup>2</sup> clean room, lots of meeting facilities and refreshment stations, a Knowledge Café, library and garden areas. Engineers and scientists come from a range of disciplines and the ambience is one of intellectual synthesis. People work on new ideas for which they create value and for commercial printing that means improved plate technologies, pressroom chemistry, CTP equipment, workflow and digital printing. Fujifilm is combining its chemical and colour management technologies with Fuji Xerox engineering for advances in both toner and inkjet digital printing including printheads, inks and toner, plus paper, software, thermal photo printers, inks for home printers, and internet print services. In addition to its research scientists Fujifilm has people on site responsible for developing applications for the various research projects.

Research is organised into four laboratories, three of which are relevant to the printing industry. The Frontier Core technology lab builds core technologies based on photonics, nano technology and functional materials. The Synthetic Organic Chemistry lab develops organic materials, and is where most people work because of the growth and market potential of flat panel display technologies. The Advanced Marking research lab develops new marking technologies for printing. (And in its own way the Life Science lab is also relevant since it deals with peoples' well being.)



*The Fujinomiya factory with Mount Fuji in the background.*

## Business development

The green ethic is not just about rescuing the planet because inevitably idealism and reality have to come together. Fujifilm has to ensure that what its scientists invent, Fujifilm can sell and that the markets for which products are designed are ready for them. The ProT and ProV process-less thermal and violet plates are a good example: there are now some 150 ProT sites in the USA and 200 sites in Europe using the plate in daily production, but ProT is not available everywhere. ProV will be launched next year, probably before drupa where it will certainly be on show.

Fujifilm's workflow activities are another example. Together Fujifilm and Xerox offer a number of workflow options and both encourage moves to new applications for digital output, which vary across markets. For ex- ▶

ample at IGAS Fujifilm showed its latest PX5000 colour print controller, but PX5000 which could eventually include the Fujifilm XMF workflow technology, is only available in the Pacific area. There are 14 active XMF sites in Europe and this technology is being positioned as a multiprocess business management system, rather than a single process production system. Conversely the Xerox FreeFlow suite has worldwide availability and is configured to mix and match workflow tools to market needs. It would be entirely sensible for Fujifilm's XMF workflow technology to be included in the FreeFlow workflow suite where market demands make it appropriate. The trick is to provide the means for sales channels to offer and support what customers want wherever they are.

Matching product to market requirements and pursuing a green agenda is about the survival of the enterprise in a changing business landscape. Ultimately it's about money, because an efficiently run business that meets customer expectations will very likely be a profitable one. With its green commitment and its substantial research and development investments Fujifilm is leading the market towards a greener future. More than this, it is positioning the business to capitalise on future market expectations, where environmental responsibility is assumed and not just trendy marketing chat. Fujifilm looks to be practicing what it preaches with wisdom, courage and creativity.

– **Laurel Brunner**

