



A print product is born

#### 1. Print is communication

Humans address other humans. The communication intent evolves within the mind; a sketch of the message is enhanced in a team, developing a concept of the end product. A print product is born, a brochure: enlightening in words and images, colorfully designed, printed in offset, elaborately finished.



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#### 2. Digital prepress

The communicative idea takes shape inside the computer. Digital images, graphics and text are set up to pages using a layout program. In order to ensure that the pages are placed correctly, you must think backward – from the end to the beginning.



## Innovation for Customers: More Productivity and Better Print Products

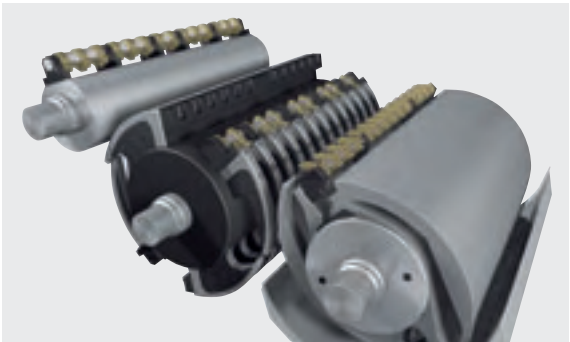
The motor for Heidelberg and its customers is innovation. No other company in the print media industry can offer their customers the same number of innovations as Heidelberg. In the last 25 years, the printing industry has witnessed more quantum leaps than in the past centuries. In 1980, the value of a printing press had a split of 80 percent for mechanics and 20 percent for electronics and software. Today, the value of a printing press has a split of 45 percent for mechanics, 35 percent for electronics and 20 percent for software. Heidelberg distills its research and development projects from market intelligence, the dialogue with customers, cooperation with universities, research institutes and business partners – extending the technological gap to competitors. Six percent of annual sales are funneled into research and development projects. More than 1,560 employees world-wide, accounting for eight percent of all staff, focus on new, optimized solutions – for prepress, press and postpress, process integration and service. One focal point is product software development with a team of 360 Heidelberg experts. Together with other industry players, the Company promotes open interfaces, ensuring that software systems are linkable, regardless of their origin.

At Heidelberg, research and development are focused on applications. New technologies, promising improvements for practice, are tested for market applicability. Pilot studies examine costs and benefits. Having passed such tests, applications are then technically implemented in serial production. Holistic product design combines usability and ergonomics with the characteristics of the Heidelberg brand.

Did you know...

... that Heidelberg holds more than 5,300 patents and trademarks for sheetfed offset, prepress, postpress and flexo printing?

## Offset Printing – Technology for the Future



Offset is the best, most mature and well-affordable printing technology. Two thirds of all print products world-wide – amounting to roughly 440 billion Euro per year – are produced using offset printing. Together with web offset, sheetfed offset is the most common commercial printing method, as it reliably provides top quality even at high printing speeds. Sheetfed offset presses are able to print up to 18,000 sheets per hour. Offset printing had been developed 100 years ago. Heidelberg took up offset printing in 1962 and

significantly perfected the method.

In offset printing, an image is multiplied using a printing plate. The areas which print absorb ink, while all other areas repel ink. Offset uses the process colors cyan (blue), magenta (red), yellow and black. The combination of these four colors can create almost any other color hue visible to the human eye. Half-tones are created by breaking up images into very fine dots, which can vary in size and density. In offset machines, the four process colors are printed one after another. One printing unit is needed per color. Each and every time, millions of dots, each smaller than the tip of a needle, must be printed at great speeds and with enormous precision to avoid blurry images. A four-color machine consists of four printing units, which prints a four-color page, using the four process colors, in one pass.

Flexo printing is especially suitable for foils and packaging. It is a relief printing process based on a print subject which protrudes from the non-printing areas of a printing form made of elastomer. Using a modular system, Heidelberg combines offset, flexo and coating units as well as equipment for special effects, adding up to high-performance printing machines for printers all over the world. Example: printing the front side of a sheet in four colors, reversing the sheet inside of the machine and printing on the back side of it in a single pass. Apart from the printing quality, perfect finishing also determines the value of the end product. For this reason, Heidelberg also produces stitching and folding equipment, along with adhesive binders, folding carton gluing machines and die-cutters.

Did you know...

... that the currently most productive Heidelberg Speedmaster printing press can print up to 18,000 sheets per hour in the 75 x 105 format?