

D&K Engineering Helps Phogenix Imaging Revolutionize Digital Photofinishing

Intro...

Imagine tackling the daunting task of trying to fundamentally revolutionize an industry that has been in place for nearly 100 years in only 24 months! This is precisely what Hewlett Packard and Eastman Kodak set out to do when they formed a joint venture called Phogenix Imaging.

Recognizing that the trend away from traditional film based cameras and toward digital camera technology was rapidly accelerating, HP and Kodak set out to create a product suite that would provide photo prints for both digital cameras and traditional film cameras. Phogenix Imaging combined Kodak's leadership in traditional and digital photographic technology with HP's expertise in thermal inkjet technology and digital imaging.

Phogenix Imaging took the heritage of its parent companies and set out on the ambitious task of revolutionizing the traditional film-based retail photofinishing market with a suite of new innovative new products that provided a digital photofinishing solution using HP's inkjet technology as the print engine.

The logo for Phogenix Imaging, with 'Phogenix' in a large blue font and 'Imaging' in a smaller blue font below it.

A Daunting Design Challenge

Phogenix's marketing requirements were daunting: Create a suite of innovative products that no other solution could provide in a single solution:

- *Commercial inkjet technology – dry, dependable, affordable*
- *Flexible, automatic in-line finishing*
- *1-Touch film processor/scanner to automatically process and digitize 35mm film*
- *Provide for image fixes and enhancement through Kodak's DLS software*
- *Create a modular and scalable platform for future products*
- *Create an open architecture for connection to consumer kiosks and seamless integration with other equipment*
- *Dry printing process – clean and easy*
- *Allow for photo sizes from 3 1/2" x 5" up to 12" x 18"*
- *Create a substantially less expensive product than conventional photo minilabs*



Breakthrough Value for the Consumer and Retailer

Phogenix's products allow the consumer a flexibility never before possible in printing or developing their photos.

Customers could now download photos from their digital cameras at home and pick up prints at their favorite retailer in the quantity and size of their choice. The retailers purchasing Phogenix's equipment benefited in that they could continue servicing both their film-based clientele and provide a new solution to their ever-growing digital customer base – all in one integrated, efficient and profitable product.

About Us...

D&K Engineering is a global contract, R&D, engineering and manufacturing services company focused on developing and manufacturing complex electromechanical products and equipment. With a core set of best practices and industry knowledge that spans the entire product development lifecycle, D&K Engineering mobilizes the right people, processes, tools and infrastructure to create and deliver sustainable business value to organizations seeking to outsource the design, development and/or manufacturing of their equipment or products.

D&K Engineering enables organizations to decrease time-to-market, reduce cost and improve product quality.

Simply put, D&K Engineering bridges the gap between concept and reality.



Change to D&K Engineering a Core Part of Phogenix Imaging's Development Team

Holding key leadership and design roles through the development of Phogenix's revolutionary digital imaging products, D&K Engineering was engaged to design, develop, prototype and transition to manufacturing numerous critical subsystems in Phogenix's photo-finishing equipment, including:

- *Continuous Media Roll Feed System*
- *Laminator*
- *Vertical Transporter*
- *Inverter*
- *Media Indexing Systems*
- *Anti-Skew Mechanisms*
- *Two-Axis Cutter System*
- *Waste Disposal System*
- *Back-Side Printer/Conveyor*
- *Photo-Stacker*
- *Enclosures*
- *Film Processor*

D&K Engineering's mechanical, electrical, firmware and software teams worked in a distributed design environment with manufacturing resources in both San Diego and Singapore to architect, design and optimize each of the above subsystems. These design efforts resulted in multiple awarded and pending patents for the program. After completing breadboard and multiple prototype phases for each of the subsystems, D&K Engineering's staff worked with Phogenix's offshore contract manufacturing partners to develop the assembly and test processes for each of the subsystems and ramp the products into manufacturing.

At the end of an intense development effort, D&K Engineering's development team, alongside Phogenix's internal staff and manufacturing partners, delivered a revolutionary product that accomplished the ambitious product goals originally set out for the program. **The Phogenix system won the Digital Imaging Marketing Association's prestigious "Innovative Digital Product Award" at the PMA 2002 Annual International Convention in Orlando, Florida.**



"The design solutions provided by the D&K team were always innovative and extremely solid, and were pivotal to the success of our final product. Their unique combination of theoretical and practical experience was essential to the completion of our programs, and meeting our schedule and budget was always at the top of their priority list."

—R&D Project Manager, Phogenix Imaging