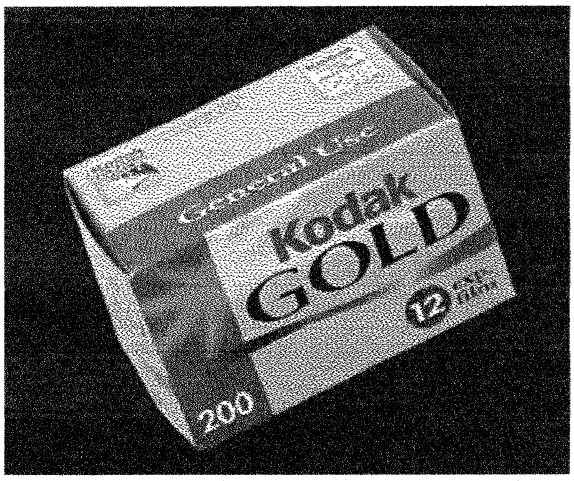
"A Picture is Worth a Thousand Words" Takes On New Meaning for Kodak

George Maruschock, Kodak



It is exciting to have a job in which you can really see that you make a difference. When everyone works together for the common good of the company, each person is made to feel valuable.

Eastman Kodak decided that, to achieve process improvement goals, they would enlist the help of every single employee. The company established ambitious goals to improve the factory. It became clear that the goals were not going to be met unless some dramatic changes were made from existing protocol.

Kodak is no small corporation. In 1998, sales reached $13.4 billion. They maintain four major operating segments: Consumer Imaging (involving photographic film, paper, chemicals, cameras and photofinishing equipment and services sold to consumers); Professional Imaging (covering photographic film, paper, chemicals, and digital cameras sold to professional customers); Health Imaging (supplying medical film and processing equipment to health care organizations); and other imaging (such as motion picture film sold to movie production and distribution companies; microfilm equipment and media, printers, scanners, and other business equipment).

The Problem

Because of the aggressive time frame set; i.e., improving cycle time by 50% within two years for one major product line, upper management realized that they must teach everyone the same principles for accomplishing this goal. They knew that they must dramatically change people's mindsets from the existing protocol. The company figured if the employees understood the laws behind the new principles, it would make the transition that must easier. They decided that simulation modeling was a key enabler to this understanding.

The Solution

Strategies to improve cycle time with the major product flow were mapped out and agreed upon. A core team was established to identified the highest priorities, one of which was educating employees on how best to improve this cycle time.

The education process included comprehensive training classes where everyone could see how their individual roles fit into the big picture. This was supplemented by simulation mo deling in which the workers could actually work with an interactive flow chart and view the dynamics with animation. Some of them got so enthused and intrigued learning about fundamentals in this fun way, they did not want to quit working with it! ProcessModel helped develop a cohesion of goals from the worker to the manager, so everyone was singing off the same sheet of music, so to speak.

A set of twenty laws—kind of like a sequential mission statement—was devised to help guide the implementa-

At a Glance

Problem: Kodak established goals for improving factory performance. For one major product flow, a management team set out to determine how to lower inventory and cycle time, as well as balance inventory and capacity. In addition, they wished to help both workers and management understand the relationships between capacity, inventory, variability and the importance of customer service. Another goal was to teach them the impact of variability, utilization, and capacity on cycle time.

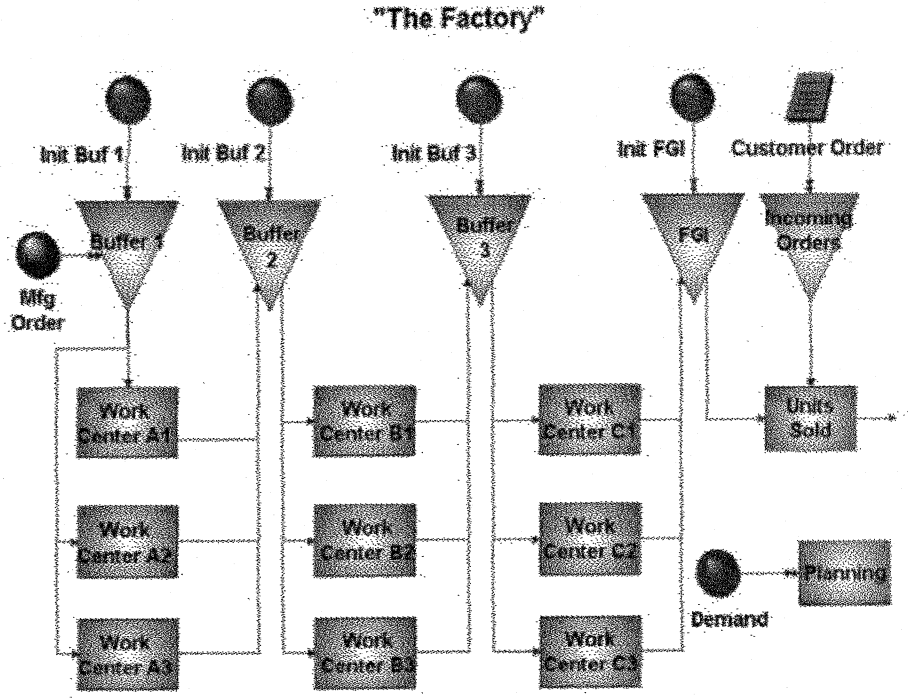
Solution: Strategies to achieve these objectives were mapped out and agreed upon. Establishing a cycle time core team, they identified priorities, including redefining the cycle time metric using Little's Law, and creating an education process.

Using ProcessModel® simulation modeling, a set of models was designed to create different scenarios.

Results: Both workers and management saw before their very eyes the new strategies in action and how they would work, through simulation modeling. They became more aware of the way manufacturing systems really work, and which laws make them most efficient or inefficient. Some of the old traditions that no

tion of the new program. These laws involved many concepts, including: *Pay Me Now or Pay Me Later*, which incorporates the philosophy "if you cannot pay for variability reduction, you will pay in one of the following ways: a) long cycle times and high WIP levels; b) wasted capacity [low utilization]; c) lost throughput."

To view the relationship between cycle time and work flow, Kodak selected the ProcessModel® simulation modeling as an educational tool. A set of models was designed to teach different manufacturing scenarios.



Results

People that attend the training classes gain comprehensive insights into what will, and what won't, work in manufacturing. Each person can see the results of their decisions through watching the animated models in ProcessModel.

One unique capability of simulation is that time can be accelerated so that you can see, for example, a day's production in a minute. Since the models are animated, you can still get an impression in your mind of where the problems are developing. Of course, you can slow the animation down to view events in greater detail.

"As a result of simulation modeling, Kodak found that people began to understand and internalize what needed to be done to impact inventory and cycle time reduction.

They also understood the need to apply learnings to their own operations. People were able to identify and implement concrete actions based on this understanding."

Future Applications

Kodak plans on developing more models to help them accomplish their goal. The results will be given to product flow leaders and functional managers. They believe that the education process is crucial to this objective. Therefore, seminars for both management and workers will be held on an ongoing basis.

Not only does Kodak believe a picture is worth a thousand words, they feel that—because of its nature and impact—simulation modeling must be worth ten thousand words! Right before your eyes you can view the smaller components of the company and see how everything works together. Kodak believes that when each person feels valuable and is given the corresponding responsibility and authority, they become even more productive.

Working together and using simulation modeling can help a company achieve goals of increased production while preserving high morale.

FIND OUT MORE

About the author: George Maruschock earned a BS, an MS and a Ph.D in EE from the University of Pittsburgh. He has worked for Bell Telephone Labs, Stromberg-Carlson, RF Communications and most recently, Eastman Kodak Company (20 years). George has 25+ years modeling experience.

Contact: If you have any questions about ProcessModel, please contact the ProcessModel team at 1-801-356-7165 or send an e-mail to info@processmodel.com