

## IKS Case Study

## Sunrise Medical

## Pursuit of Excellence



At the moment Sunrise Medical, one of the world's largest manufacturers of homecare and extended care products (in Germany Sunrise produces wheel-chairs), is managing around 90% of their Just-in-Time-Production via Kanban. This includes the internal assembly processes as well as the management of the external suppliers.

In the year 1998 the manual Kanban system has been completed by "IKS" of manufactus, Germany.

IKS is a software system especially developed for Kanban management to improve the complete Kanban processes inclusive external vendors.

Sunrise Medical uses the electronic Kanban system to manage the complete material flow inclusive many purchased parts.

The philosophy of "Pursuit of Excellence" describes an internal program of continuous improvement inside Sunrise Medical. The program is the basis of the Sunrise company culture.

Sunrise Medical has realized a "World-Class-Manufacturing". The main benefits of this kind of organization is appear in a higher product quality, a better delivery performance and reduced inventory levels.

The success is based on product specific assembly lines, process related quality checks by the operators and a reduction of the vertical range of manufacture (more parts and components are purchased from external suppliers).

### Make-to-order production

By using a customer driven PULL strategy more and more responsibilities are moved to the employees. Finally the complete production has been moved to PULL based on the Kanban principle. Sunrise Medical uses today a very flat organizational structure; the company has been divided into different decentralized product groups.

Based on the high individual configuration of each wheel-chair and huge amount of possible variances, the production is only make-to-order based.

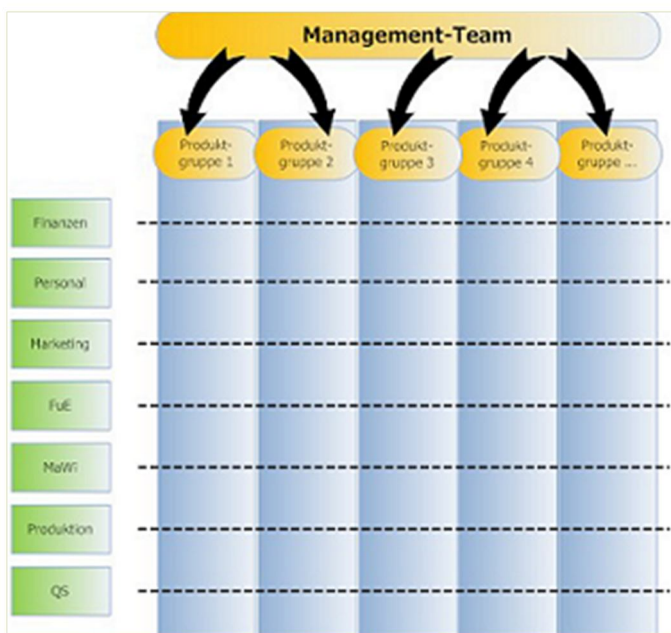
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Changing from PUSH to PULL in the decentralized Sunrise structure has switched off the complete MRP structure.

The scheduling of the production will be managed by the product group itself. The Kanban system is hereby an important element.

The production layout is product oriented and based on continuous flow (Demand-Flow-Technology).

This forces a clear structure of the shop-floor and improves the flow of material and information. The internal material flow will be managed completely via Kanban and also more than 80% of the purchased parts are replenished by Kanban signals.



### Kanban system in three groups

The Kanban system at Sunrise Medical is a "one-card-Kanban-system". The Kanban cards are fixed at the container. Each container is linked to a clearly defined supplier and consumer. The full boxes are stored in flow-racks at the shop-floor.

All parts which are replenished at Sunrise via Kanban, can be divided into three groups:

- > Internal manufactured parts (100% Kanban),
- > Purchased parts which are delivered in defined Kanban containers with fixed Kanban card = Container Kanban (80% Kanban)
- > Purchased parts which are delivered in defined containers with a Kanban card on that has been sent via fax or email = Card Kanban (20% Kanban).



These groups are different regarding the processes. But they are based on the same principle: If an operator is taking out the last part from a Kanban box the Kanban container has to be scanned to the status EMPTY via barcode reader. The empty Kanban box is the signal to start the internal production of the parts or for the external supplier to deliver a new re-filled box (PULL).

The Kanban parts are not longer stored in a central warehouse but in small decentralized racks close to the assembly lines. So the parts are always stored very close to the place of consumption.

## Weaknesses of a manual Kanban system

Without using a Kanban system it would not be possible to reduce the customer order lead-time from 8 weeks to 3 - 10 days and to reduce the inventory in parallel significantly.

By the continuous improvement of the processes, productivity has been increased by 300%. Additionally Sunrise reached benefits like reduction of used floor-space and a much better visualization.

But when they have reached such a lot of benefits, why did they decide to use a software to support the Kanban system?

In spite of the benefits by implementing a Kanban system, there were some weaknesses regarding the transparency of the Kanban system and also of the Kanban data management.

The Kanban data and the Pull processes were handled completely manual. So the objectives of an Kanban support system were to make all processes easier to use. In detail the objectives were:

- ✓ Easier management of the Kanban data and Kanban loops
- ✓ Measurement of supplier delivery lead-times
- ✓ Reduction of supplier lead-times
- ✓ Act and not re-act (Early Warning System, recognizing of trends)
- ✓ Active management of all parts (Optimization by visualization)

"All Kanban relevant processes must be 100% stable and easy to use", remembers Mr. Dirk Kohl, responsible for material management at Sunrise Medical Germany and owner of the IKS implementation project.

Mr. Kohl has made experiences in the fields of quality management as well as purchasing. In his opinion the IKS system has to support the rating of external suppliers and to recognize potential problems before they appear (Early Warning System).

The basis to "measure the supplier lead-times" are each single Kanban of a Kanban loop.



## The Solution

After developing of a first prototype and first experiences by using an e-Kanban system, Sunrise Medical was searching for a supplier of an professional electronic Kanban system.

The solution for Sunrise Medical has been found: The described Integrated Kanban System (IKS) of the company manufactur located in Starnberg (Germany).

IKS has a modular architecture. The system supports the management of a Kanban system and the visual control of the complete Kanban situation (for internal and external Kanban loops). The analysis of the performance of the Kanban system enables an pro-active Kanban management and the visualization of trends. Additionally the analyzed KPIs can be used to rate the suppliers and their performance.



## Experiences

To track the container movements IKS is using a wireless barcode scanner network. The barcode readers (each of them includes a display to show all important messages for the operators) create a stable process of data capturing and sending of signals. Additionally manual data entries are reduced to a minimum. For example, when a container has to be moved out of the Kanban processes or a new Kanban label is required (because the data on the Kanban card have been changed), the barcode reader visualizes this information on the display and the new Kanban cards are printed out automatically.

In the past Kanban priority lists have been written by hand and sent to the suppliers manually. Today IKS is creating such information automatically and sent all information directly to the supplier via fax or email.

For the Kanban administrator the IKS Kanban Manager Module and the IKS Diagnostic Module are the tools to control the Kanban situation continuously. Management-Reports show the differences between planned and real lead-times and the current inventory levels (material availability). All of these information are very helpful to manage the Kanban system day by day.

### The results are very positive:

- ✓ too high inventory levels have been identified,
- ✓ deviation of supplier lead-times has been recognized,
- ✓ related problems and potential for continuous improvement activities have been visualized.

## And it is going on...

The first benefits have been reached by the implementation of a classic Kanban system.

The long-term reduction and optimization of the inventory levels and the increasing of the delivery reliability can only be reached by the measurement of the performance of the Kanban system with the support of IKS.

An additional long-term objective is the full (IT) integration of the suppliers and customers. The automated sending of Kanban signals via fax and email via IKS was only the first step, but the Internet offers more and more potential to improve the flow of information and material.

The vision is an electronic Kanban system as core for a "perfect" management of the Supply-Chain between customers and suppliers.

**Please contact us for an  
IKS presentation or a visit  
of Sunrise Medical  
Germany!**

### About manufactus

manufactus designs and develops innovative software solutions to optimize production and logistic processes.

Our goal is to supply software tools to support internal production processes, optimize the supply chain and to enable the customer to improve the processes continuously. Hereby we strongly support the principles of Lean Manufacturing, Kanban and the Toyota Production System.