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Summary of the presentation

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How to avoid shipping defects to the customer?

Today final customers' demands the delivery of ZERO DEFECT MATERIAL. In case a critical defect leaves the company it creates cost and reduces market reputation. The quality department will be informed and the occurrence has to be traced. Furthermore the internal quality process has to be proved and the customer will start with another auditing process. Therefore, one of the most important issues is to send no critical defects to customers. The task to find such a defect is performed by the inspection system. Based on the material, and defect types to be detected the system configuration is designed to ensure the detection of all critical and relevant defects.

If working with mother rolls, only the detected defects need to be verified and the roll needs to be blocked. Either it can be sent to a doctor machine to repair it or it can be taken to stock to sell, if possible, for another customer order.

But most of the mother rolls will be already converted in-house. They will be sent to a slitter and various daughter rolls will be generated out of one mother roll. This will be done by applying various cutting schemes. And this is the critical point: How to be sure that the defected daughter roll will correctly sorted and cut to ensure maximum yield.

ISRA VISION has analyzed the process and has developed sophisticated software for this. The software enables identification of the affected roll, to document the internal process and to sort out, finally, the roll before sending to the customer.

After the production of the roll is finished the roll will be transported to the slitting machine. From the superior production planning all cutting data as well as final customer data like order number, length, width etc. are available. With the production completion of the roll the automatic inspection is also finished. All defects are stored in a database with position, size and defect type (classification). For each defect an image is available as well. All data are related to the mother roll. In the past it was a difficult job to convert the inspection data of a mother roll to the daughter roll data.

This is solved now with this new software. With the slitting optimization the cutting layout can be applied to the mother's roll.

There are no limits in regards to length and cross cuts. All variances are possible. Also unsymmetrical cutting, indicating waste cuts. Furthermore material stretch during rewinding and cutting can be applied. This is very important as material stretch will influence the position of the defect inside the cutting process.

After the cutting scheme is applied to the master roll, the operator will start to verify the critical defects to take decisions for blocking rolls. This will only take a few minutes time. Within the **Defect Image Viewer** all information is available and the most important decision criteria is the defect image itself. The defect image will show clearly the appearance of the defect. Additional information like size and position near the cutting edge will also be given in just one view.

The operator can now scroll through the defect images. In case a critical defect is identified the "BLOCK BUTTON" can be pressed. The roll with the defect inside will now be blocked automatically. All other defects inside the blocked roll will be suppressed during this procedure in order to save time. After verifying all the defects within a few minutes, the software will show, which daughter roll needs to be segregated. All this information is given to the operator of the slitting machine. The operator at the slitter is now able to sort-out the rolls, he even can replace the rolls by spare rolls from the warehouse, if available.

With the new **Quality Viewer** all these decisions are transparent in the whole company. Sales-, quality department, production, management and etc. can get a summary of all decisions based on customer orders. The customer orders can also contain a mix of daughter rolls from multiple mother rolls.

Blocked rolls will be indicated. Defect Images will be displayed as thumbnails.

Thus the whole quality decision process is transparent and traceable.

With the tool **Quality Viewer** it is sure to ship only high quality rolls to the customer.