MPS Roll Handling

The automated roll logistics and tracking system

- Modular system – only the functionality that you need
- Full roll logistic system or simply roll tracking
MPS Roll Handling
Configured to meet your needs

MPS Roll Handling is a modular system providing a wide range of functions supporting the logistics and tracking of newsprint rolls. The modular structure means that you can simply select the functions required. As well as the three main modules (Roll Logistics, Roll Track and the Roll Logistic Viewer) there is a set of submodules within Roll Logistics corresponding to the various process steps.

The Roll Logistics module of MPS Roll Handling is a complete roll logistic system that automates all movement of the rolls from their identification at the goods-in station to their use at the reelstands and on to the disposal of the core. It is possible to configure the Roll Logistics system to automate some process steps but not others. This is particularly useful to the customers when they already own various roll handling systems that do not permit full automation, e.g. a manually operated main storage.

The Roll Track module of MPS Roll Handling is a complete tracking and analysis system that generates detailed statistics about, for example, the paper consumption per production, the rolls used per reelstand, and the web breaks per paper manufacturer.

The Roll Logistic Viewer is a simple solution which displays the rolls that are required at the reelstands and should be obtained from the intermediate storage.

MPS Roll Handling can work together with third-party production planning systems, but when customer benefits are even greater when it is fully integrated into the ABB workflow.
Function Roll Logistic Viewer Roll Track Roll Logistics

Display of roll requirements at reelstands ● – –
Use of papiNet data to extend roll data – ● –
Scanners and bar code printers required at reelstands – ● –
Generation of statistics, analysis of web breaks – ● –
Identity of rolls in stock known – ● –
Full inventory of main storage and intermediate storage – –2 ●
Exact location of every roll known – – ●
Management of main storage – – ●
Management of intermediate storage – – ●
Coordination of AGVs – – ●
Movement of rolls based on press production planning – – ●

Notes:
1) Applies to complete version. If some subprocesses are left as manual, then some positions may differ.
2) Available as an option with additional scanners.
Roll Logistics

The Roll Logistics module of MPS Roll Handling is a complete roll logistic system that automates all movements of the rolls from their identification at the goods in station to their use at the reelstands and on to the disposal of the core.

The rolls are identified on delivery by means of a bar code or RFID tag. The addition of papiNet data or equivalent to the database is available in the Roll Track module.

The Roll Logistics module of MPS Roll Handling uses the production planning data from the press management system, typically MPS Production, to identify the needs for paper in the coming days and ensures that the intermediate storage is kept sufficiently stocked. Rolls required for the intermediate storage are transferred automatically from the main storage. All movements are carried out by AGVs (or equivalent) based on the orders from the Roll Logistics module. As a result, the Roll Logistics module knows not only which rolls of which type are in stock but also their exact location. It therefore also knows exactly which roll is transferred to which reelstand. It also knows the exact details of any partially used roll transferred back to storage without the need for any further identification.

At some sites the main storage is not included in MPS Roll Handling. In this case the rolls are identified for the first time by a scanner at the preparation station.

The disposal of roll cores can also be handled by the Roll Logistics module. This function is an option.

<table>
<thead>
<tr>
<th>Functions and responsibilities of the complete Roll Logistics module of MPS Roll Handling marked by the light gray field</th>
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</thead>
</table>

- **Goods in**
- **Unloading**
- **Scanning**
- **Preparation**
- **Reelstand**
- **Main storage**
- **Intermediate storage**
- **Disposal**

- **Roll Logistics**
- **MPS Production**
The user interface of the Roll Logistics module is always divided into three main areas:

- **Layout area**
  The upper part of the screen shows a graphical representation of the roll storage (intermediate storage and, when required, the main storage). The different newsprint roll types are represented by color-coded rectangles and the status by various symbols. This part can vary from site to site depending on the layout of the storage areas.

- **Stock overview**
  The lower left-hand part of the screen shows an overview of the stock levels of each type of roll. This uses the same color-coding as on the layout part of the screen.

- **Dialog area**
  The lower right-hand part of the screen is used for interaction with the user. It shows a list of possible commands as well as the latest event messages from the system.

**Roll Logistic Viewer**

The Roll Logistic Viewer is a low-cost option for plants where the scale of the operation would not justify a fully automated solution. It consists of a monitor that displays the rolls that are required at the reelstands and should be obtained from the intermediate storage. The Roll Logistic Viewer can, however, be supplied together with any other module or modules of MPS Roll Handling.

### The functions at a glance

<table>
<thead>
<tr>
<th>The functions at a glance</th>
<th>Your benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully automated</td>
<td>The right paper at the right place at the right time; avoidance of errors, lower costs</td>
</tr>
<tr>
<td>Easy operation</td>
<td>Low training costs</td>
</tr>
<tr>
<td>Clear overview of stock requirements</td>
<td>Simplified purchasing, optimization of stock levels</td>
</tr>
<tr>
<td>Selection of modules according to customer needs</td>
<td>Reduced investment costs</td>
</tr>
</tbody>
</table>
The Roll Track module of MPS Roll Handling is a complete tracking system that provides information on which rolls were used for which production.

This data is used to provide a wide range of detailed statistics including:

- paper consumption per edition
- rolls used per production run
- number of web breaks per 1000 km per manufacturer, grammage and cause

The rolls are identified on delivery via bar code or RFID tag. If papiNet data are available, additional information about each roll (e.g. exact width in millimeters and the paper quality) is obtained from this source, otherwise it has to be entered manually.

Roll Track needs to know which roll is mounted onto which reelstand. It is therefore necessary that the roll is identified at this stage, either via the RFID tag or by scanning a bar code. An additional scanner is therefore required at each reelstand unless the Roll Logistics module is also in use (see “Roll Track and Roll Logistics” opposite).

RFID tags have the advantage that any partially used rolls that are removed from the reelstand and returned to storage can be identified easily at any time. If bar codes are being used, then either the old bar code has to be reused or a new label has to be printed to identify the partially used roll before it is transferred back to storage.

The combination of the roll identification and the production data that is obtained from the press management system (typically MPS Production) enables Roll Track to compile statistics of the rolls used per reelstand, the rolls used per production, the number of web breaks per roll per supplier and so on. The production manager therefore has detailed evidence about the quality of the rolls that have been used and can present this evidence to the paper manufacturer if required.
Roll Track and Roll Logistics

The key difference between Roll Track and the Roll Logistics module of MPS Roll Handling is that Roll Track does not manage the storage areas and does not initiate the transporting of rolls within the plant. However, it knows which rolls are in stock and which ones are on which reelstands. As an option, additional scanner stations can be built into the roll transport routes so that Roll Track can maintain an exact inventory of both the main storage and the intermediate storage.

If Roll Track is in use in combination with the Roll Logistics module, then the identification of the roll being delivered to the reelstand is obtained from the Roll Logistics module without the need for the additional scanner mentioned above. Similarly, no bar code printer would be necessary for the partially used rolls as the Roll Logistics module always knows which roll is where.

The functions at a glance

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<tr>
<td>Exact records of the paper used per product</td>
<td>Clear and reliable basis for invoicing</td>
</tr>
<tr>
<td>Detailed records of the web breaks for each paper manufacturer</td>
<td>Clear evidence for claiming against suppliers resulting in fast return on investment for Roll Track</td>
</tr>
<tr>
<td>Extensive data on paper consumption and quality without the need for complete automation of roll supply</td>
<td>Economical solution, low investment cost</td>
</tr>
<tr>
<td>Provides accurate inventory information</td>
<td>Basis for just-in-time ordering and optimized stock levels, reduced inventory costs</td>
</tr>
<tr>
<td>Works with barcodes or RFID tags</td>
<td>Flexible system with choice of technology</td>
</tr>
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