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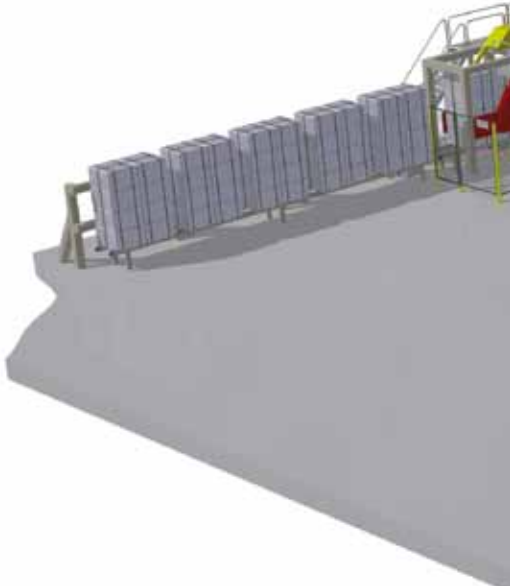
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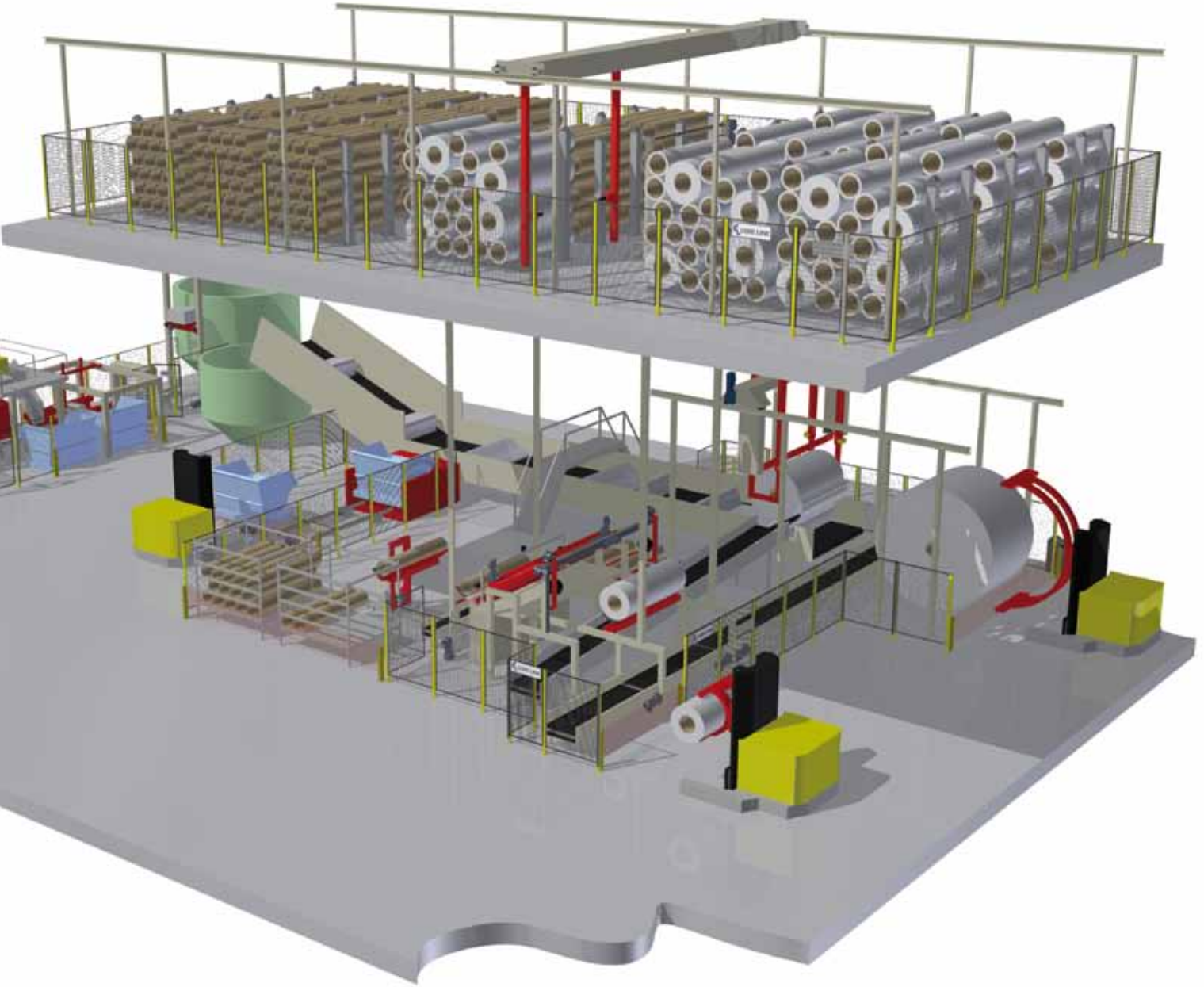




**CORE LINK**

meets

**TRANCEL**



# CORE LINK

## YOUR PARTNER IN THE TISSUE AND TOWEL INDUSTRY

Reduce Cost While Improving Safety

### In the Tissue and Towel Industry

Core Link, an international company with complete in-house competence, is headquartered in Sweden.

Since the 1970's Core Link has established its position in the paper industry as a global partner in providing cost-efficient and productive solutions for core and broke roll handling.

Hundreds of paper mills in more than 50 countries have installed Core Link core and broke roll handling systems.

Since 2011, Trancel Systems is part of the Core Link Group.

The main business of Trancel Systems is material handling for the pulp, paper and the tissue industry worldwide.

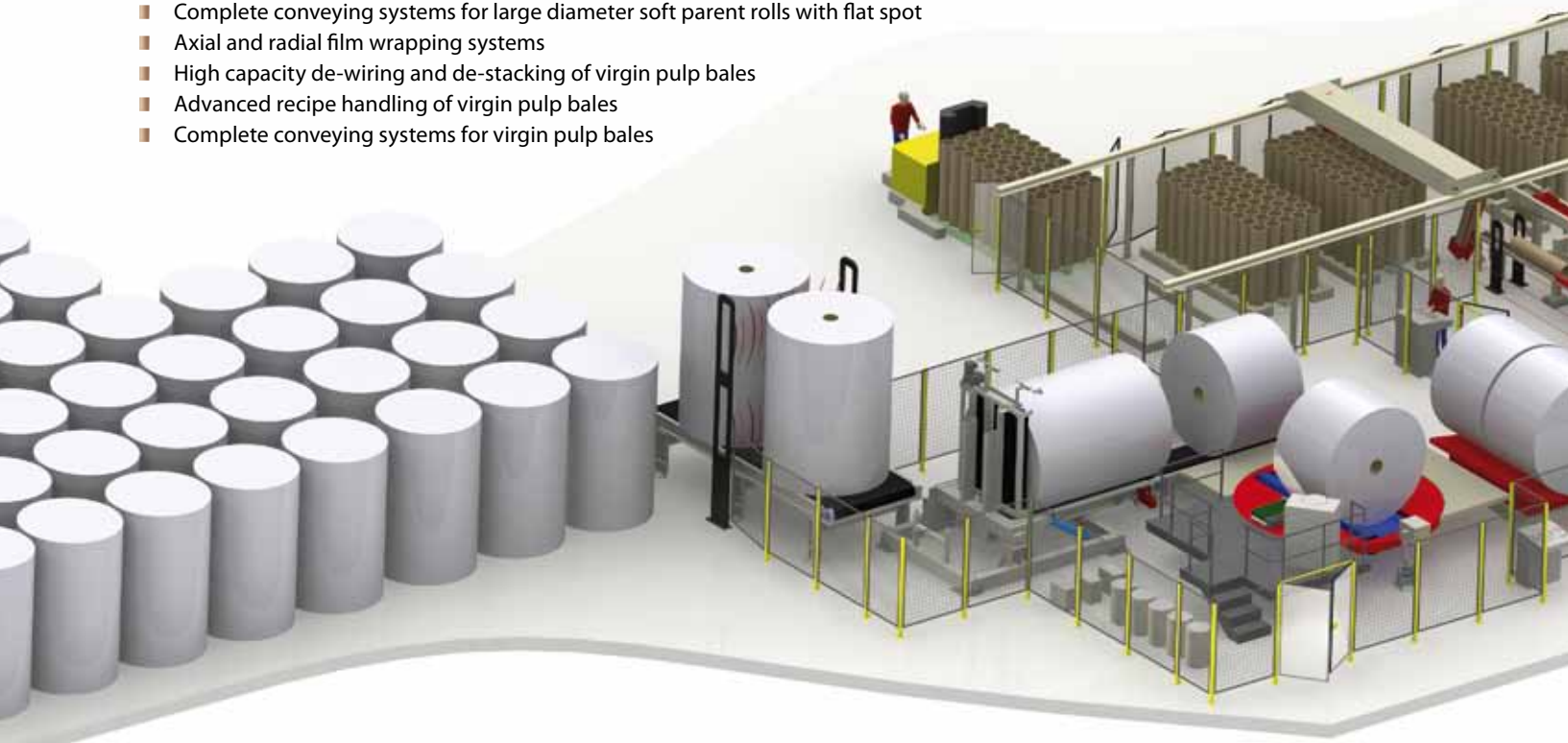
Core Link and Trancel have a broad range of products that can enhance the productivity and safety plus improve ergonomics within the tissue mills. With more than 35 years in the business we have the experience and knowledge which we are eager to share with you.

## Core Link Supplies Fully Automatic Systems to the Tissue and Towel Industry

### » Tissue Paper Mills

Tissue Paper Mills benefit from a high automation level:

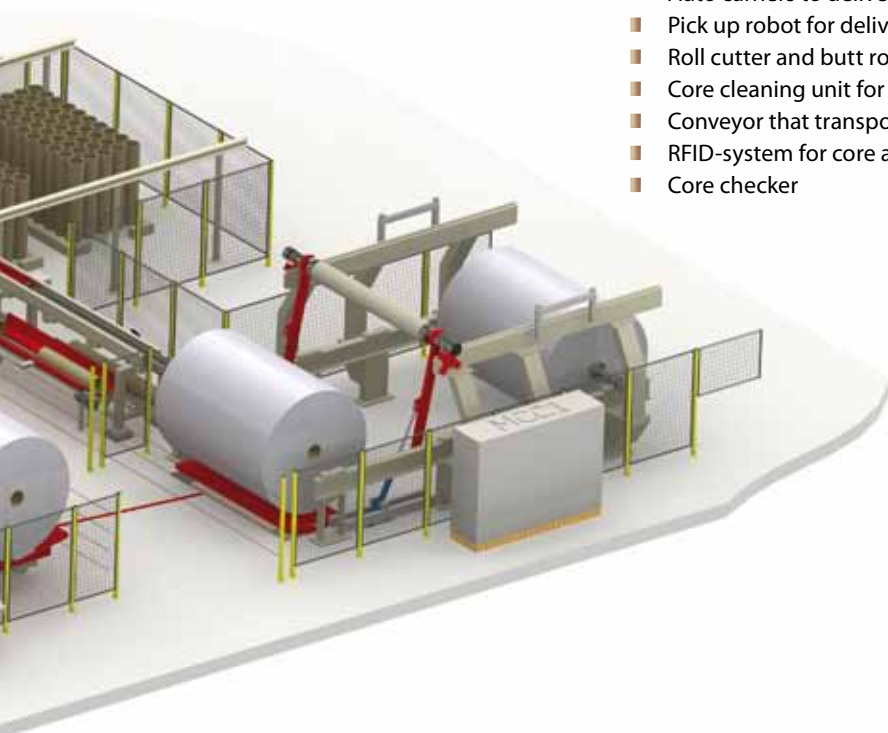
- Shaft extractors, stationary and variable height traversing units with optional automatic airshaft inflate/deflate
- Loose waste paper handling including in-ground receiving pit, steeply inclined belt conveyors, straight or curved
- Equipment for De-wiring of Recycled Fiber bales (RCF), bale breaking, equalizing drums and advanced volume tracking
- Upper level shaft return systems
- Roll breaking system
- Automatic taping and labeling systems
- Complete conveying systems for large diameter soft parent rolls with flat spot
- Axial and radial film wrapping systems
- High capacity de-wiring and de-stacking of virgin pulp bales
- Advanced recipe handling of virgin pulp bales
- Complete conveying systems for virgin pulp bales



## Milestones of Core Link and Trancel Tissue Installations

- 1983 Core cutter type CL 1000 sold to SCA Lilla Edet in Sweden
- 1983 Core stripper for tissue is sold to SCA HYGIENE PRODUCTS AB in Sweden
- 1990 Automatic parent roll film wrapping system installed at KLIPPAN MILL in Sweden
- 1998 Core robot sold to a major tissue mill in France
- 2002 Automatic roll cutter for tissue rolls is installed in south-central, USA
- 2002 Automatic roll cutter cutting down broke wet strength towel broke rolls is installed in Lilla Edet, Sweden
- 2004 Installation of waste paper handling system at SCA Lilla Edet, Sweden
- 2006 Shaft extractor with roll handling system including an automatic palletizing upender to Metsä Tissue Katrinefors Mill, Sweden
- 2007 Automatic bale handling/de-wiring system sold to SCA Kawerau mill, New Zealand
- 2007 Roll handling system delivered to Sofidel Kisa mill, Sweden
- 2010 Automatic roll cutter for TAD toilet/facial tissue and kitchen towels to mid-west, USA
- 2011 Roll and core handling system built in compliance to Good Manufacturing Practice (GMP) and FDA regulations delivered to Mölnlycke Healthcare in Belgium
- 2012 Core joining system with core robot for 10" and 18" cores installed in mid-west, USA

- Core transport system to tissue machines and back from converting department
- Core loading device for loading cores into different carts
- Core storage systems with core robot
- Auto carriers to deliver rolls to converting lines
- Auto carriers to deliver butt rolls to butt roll cutter
- Pick up robot for delivering rolls to the roll cutter
- Roll cutter and butt roll cutter
- Core cleaning unit for removing last paper layer
- Conveyor that transports the paper to a pulper
- RFID-system for core and reel tracking
- Core checker



## Market Pulp Bale Handling and De-wiring Systems

The line of automatic market pulp bale handling equipment includes de-wiring and de-stacking of unit bales and single bales, wire-coilers, metal detectors, manual de-wiring station and all the necessary conveying equipment.



Automatic Pulp Bale Handling – Including Unit De-wiring, De-stacking and Single Bale de-wiring



Market Pulp De-wiring Machine in Operation

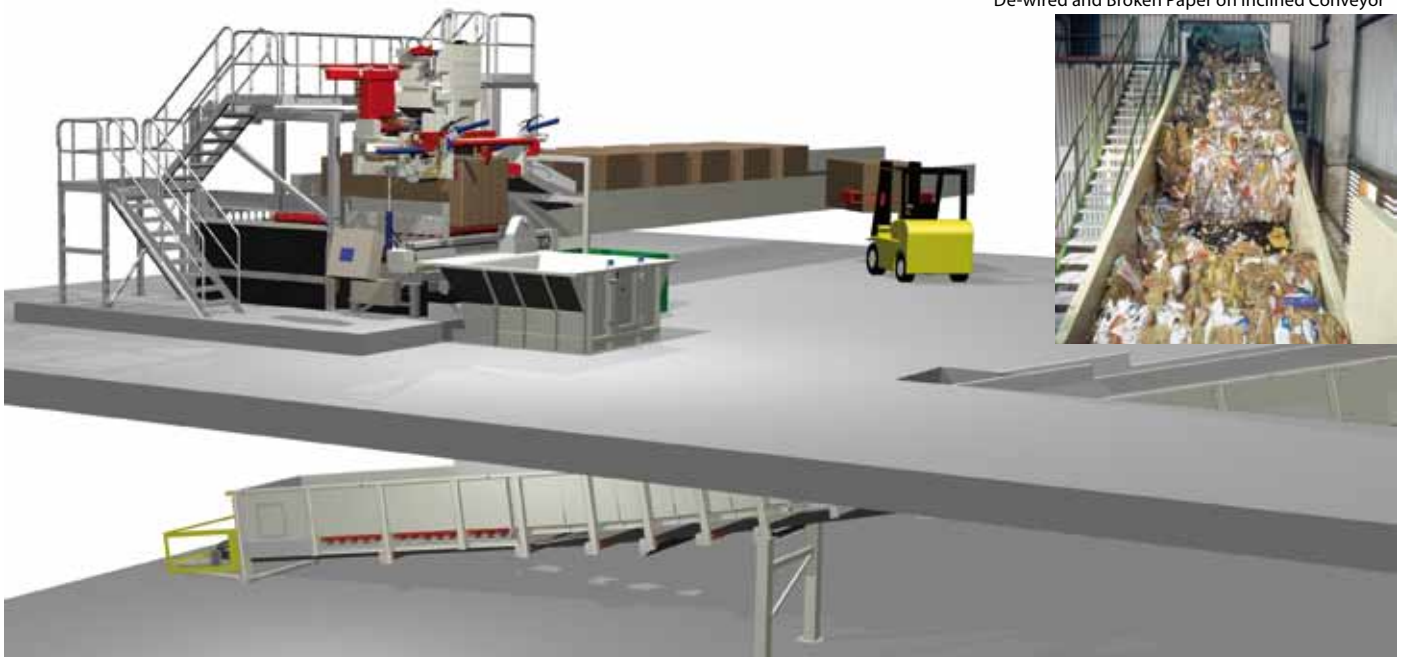


Wire Coiler with 250 kg/550 lbs Coil of Wire Ejected

## Recycled Fiber (RCF) Handling and De-wiring

Trancel Systems carry a complete line for handling Recycled Fiber (RCF) raw material baled as well as loose paper. The systems take care of everything from receiving, de-wiring of bales, bale breaking, equalizing drums for evening the flow, exact measuring and very precise feeding into pulper.

De-wired and Broken Paper on Inclined Conveyor



3D View of Automatic RCF Bale Handling System – Including De-wiring and Bale Breaking

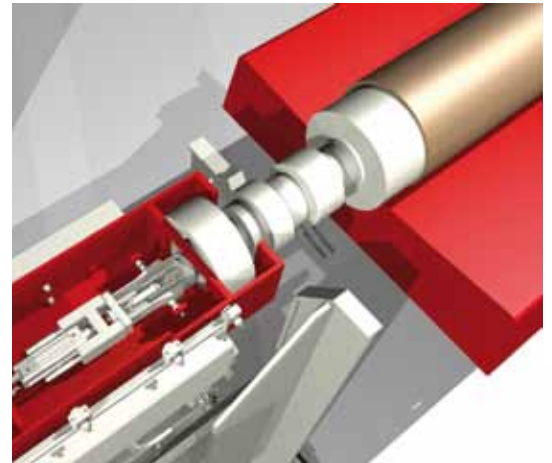
# Shaft Handling

Trancel Systems offers a broad range of shaft extractor designed to support different layouts and functions.

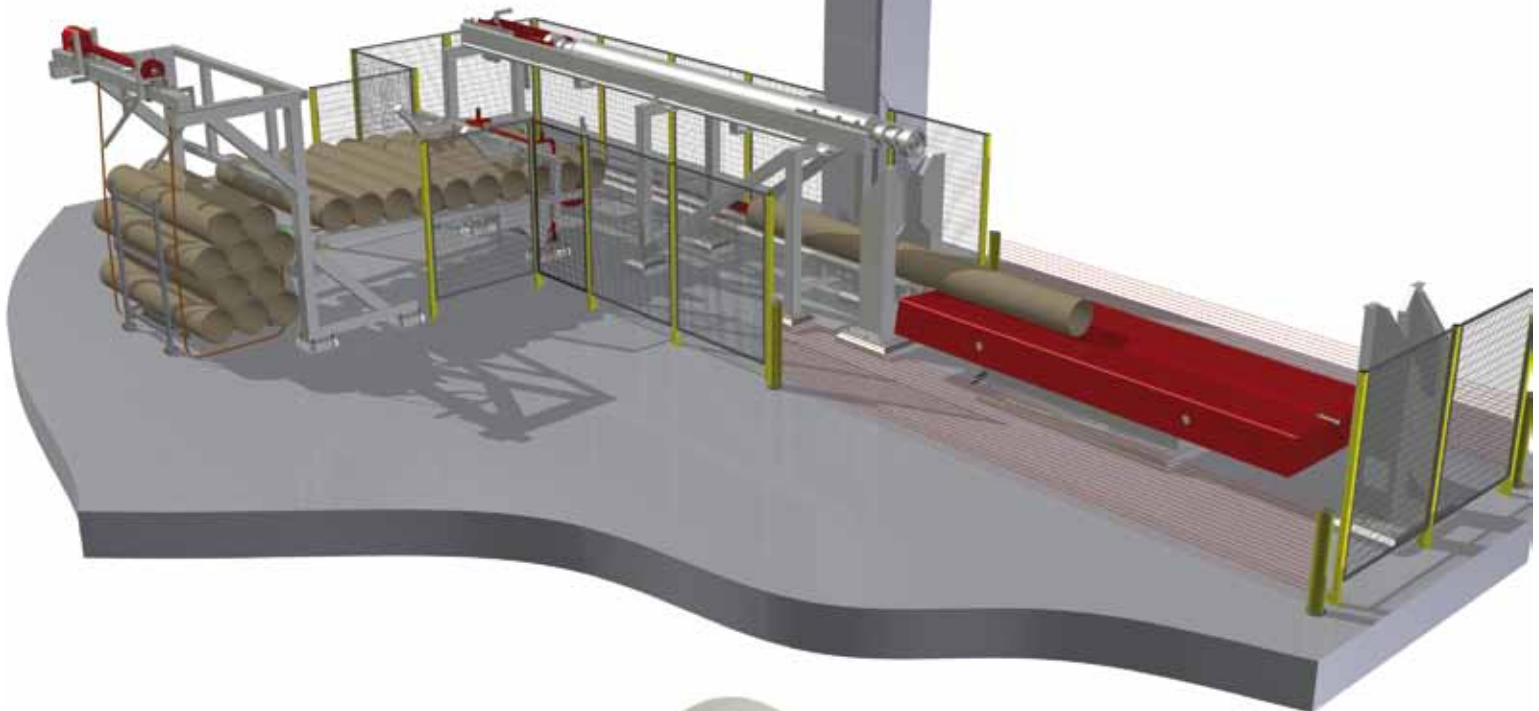
Systems may include everything from direct integration with core storage, enhanced intermediate core supply by means of belt hoppers, equipment for spacing cores before re-coring the shaft, automatic inflation/deflation, traversing systems, variable shaft sizes to semi-automatic systems. Some systems even include the automatic solution for transporting the re-cored shaft back to the pope reel. Every solution is tailored to fit a specific application.



Automatic loading of cores



Automatic Inflation/Deflation

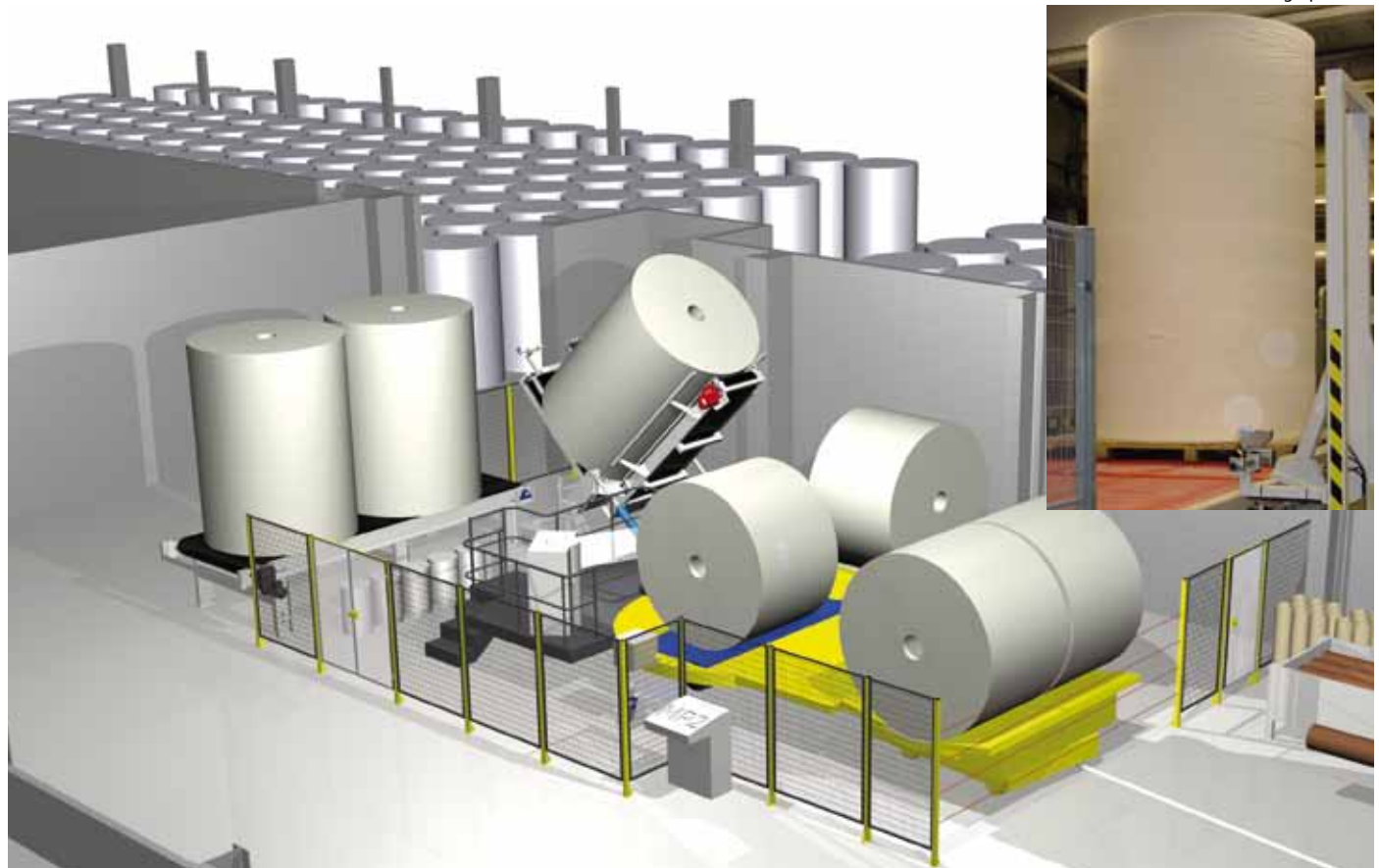


Automatic Extraction

## Roll Handling and Wrapping Systems

Roll handling is about treating the unwrapped fragile product extremely carefully. The soft tissue roll with its large flat spot needs specific treatment. Trancel Systems portfolio to handle those reels incorporates all necessary machinery from the pope reel to the converting or storage area, including automatic taping, roll set breaking, wrapping, upending, palletizing and storage conveyors.

The wrapping systems are either axial, radial or a combination. Various models can be offered depending on the capacity and grade. All models create a great protection for both mechanical and environmental impact.



Turntable Style Axial Film Wrapper

## Loadmate



The Loadmate automatically loads or unloads a trailer within 3 minutes. It reduces both time and damage to the roll due to less clamp truck handling. It's ideal to use when production and converting or storage are not in the same building.

## Customized Technology – Cleanroom Installations

Trancel and Core Link have a wealth of experience in customization according to each customer special needs.

One good example is core- and roll handling equipment for cleanroom environment where all equipment is installed in an enclosed production space with extreme hygiene control according to ISO 14644-1/FS 209E.

All equipment follow Good Manufacturing Practice (GMP) and Food and Drug Administration (FDA) regulations.



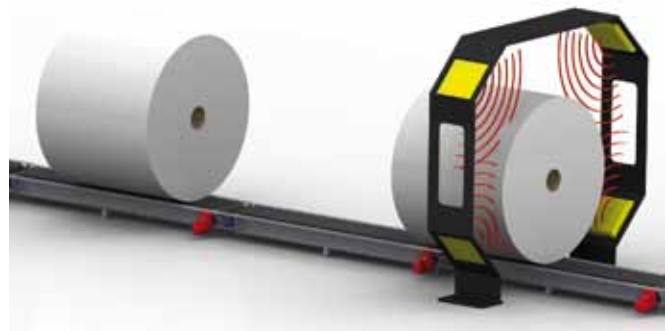
Roll and Core Handling for Laminated Surgery Tissue

## RFID - Parent Roll and Core Tracking

System for RFID, Radio Frequency Identification, is rapidly replacing barcodes for identification of all kinds of products.

The RFID-system has many advantages compared to the barcode system:

- Enhanced readability
- Lower maintenance cost
- Cost effective and easy expandable
- Better inventory control
- Less inventory errors
- Automatic core re-use calculator
- More accurate production planning
- Always right product in converting



Automatic Reading of the Tag in the Conveyor System

Core Link has the partners, the know-how and the applying equipment to offer RFID-systems for core and paper reel tracking through the entire roll/core life cycle.



## Core Cutting

Core Link's core cutting systems range from manual to fully automatic. The tissue adapted core cutter for large diameter cores (ID 250-500 mm/10-20") manages all core lengths - from down to 10 mm/0,4" for the metal industry to the maximum length that tissue-rolls are produced. The model CL 500 BIG is a manual robust core cutter that manages the wear tear from handling heavy large diameter cores.

No adjustments are needed in the core range ID 250-500 mm/10-20". Main machine assemblies are stocked along with most components for short delivery time.

## Options

The core cutter can be equipped with a number of options:

- Multi stop: easy change between different preset cut lengths
- Pneumatic lock: for quick core stop length adjustments
- Extra pop-up support rollers: make it easy to push heavy/long cores
- Digital display: making it easier to set the cut length

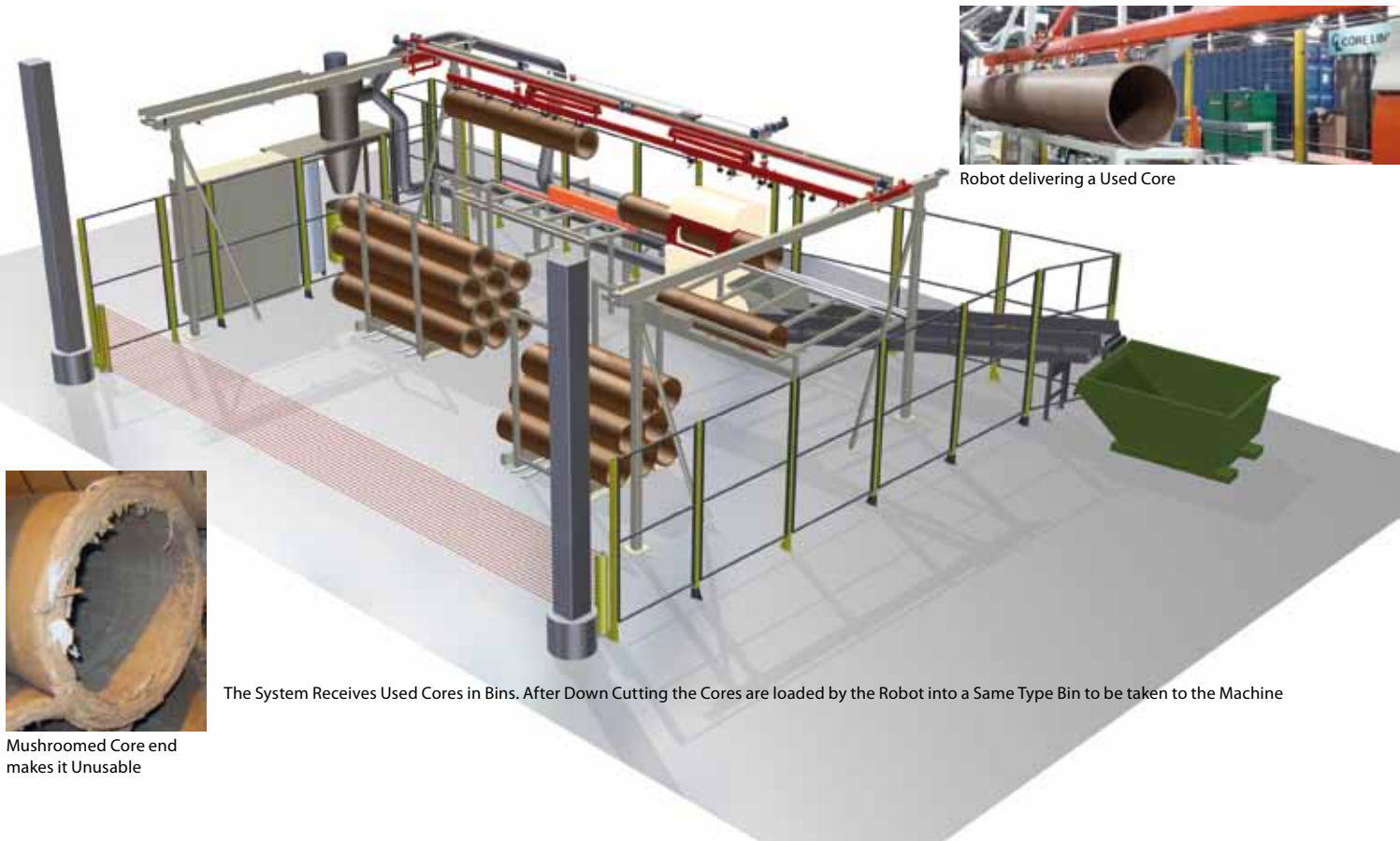


Manual Core Cutter - Equipped with Multi Stop and Digital Cut Length Display

## Systems for Parent Core Recycling by Down Cutting

The expensive tissue/towel parent cores are re-used a few times after each converting cycle. The core end is the area which gets damaged first rendering the whole core unusable.

Bad core ends reduce the turn-up and converting efficiency. If the mill has converting lines with different widths, an easy way to re-use a core with damaged ends is to clean cut the damaged ends and down cut it to the next shorter length as shown below.



Robot delivering a Used Core



Mushroomed Core end makes it Unusable

The System Receives Used Cores in Bins. After Down Cutting the Cores are loaded by the Robot into a Same Type Bin to be taken to the Machine

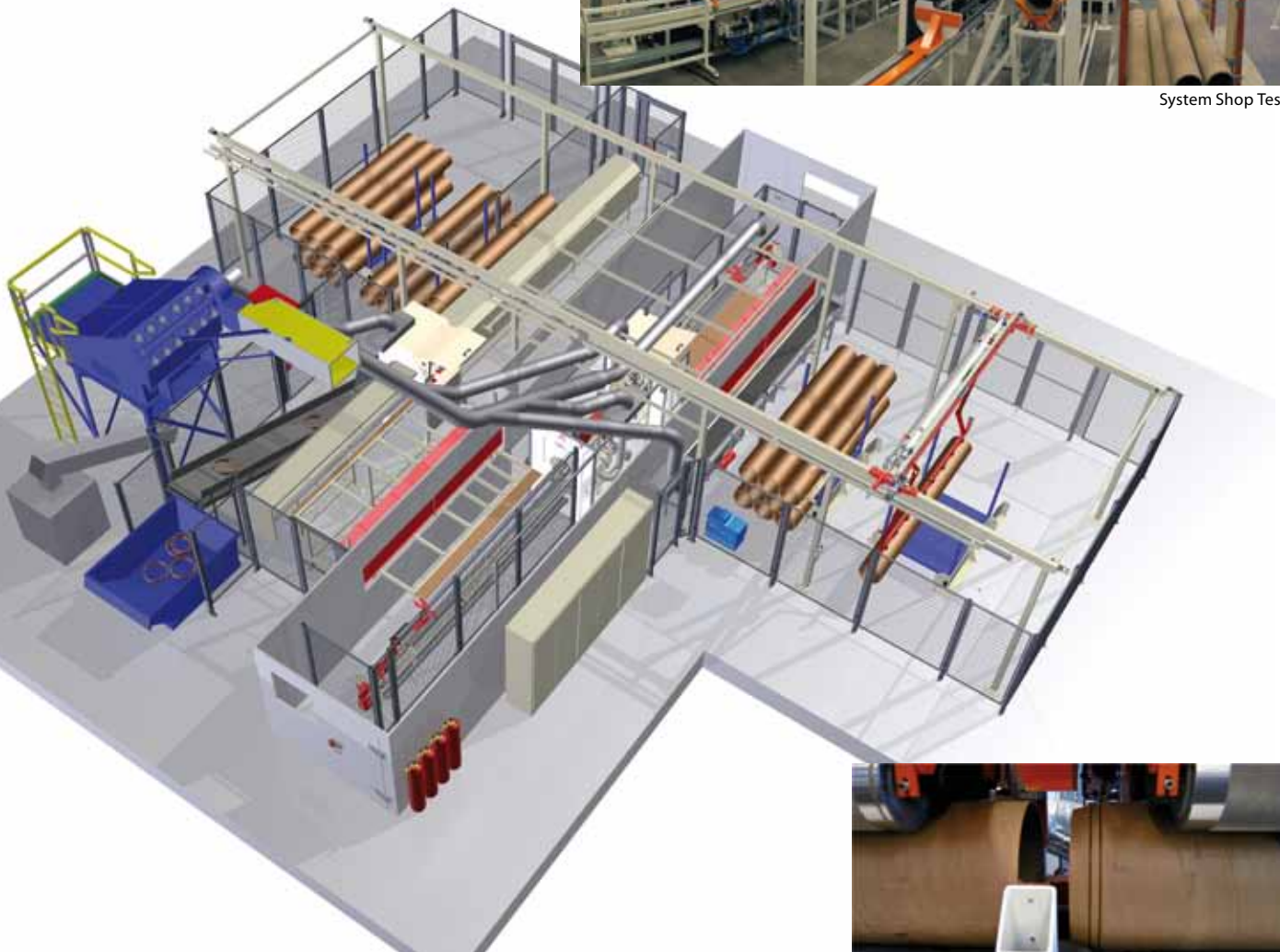
# Core Recycling by Core Joining

The next step in improving core savings is the Core Link patented core joining cell where shorter cores after clean cutting are glued together to form new, longer cores which are cut to the required length.

Adding Core Link's proven core handling equipment like robots, conveyors etc., we can create systems which provide full automation and connect easily with the mill's logistics. Use of cart designs and robot served core storages create buffers to even out the variations in the core flow.



System Shop Test



3D View of Automatic System with Robot Picking used Cores from Carts and Delivering Recycled Cores to Carts on the Other Side



Core Joining Station – Adhesive Applied on Male Cone

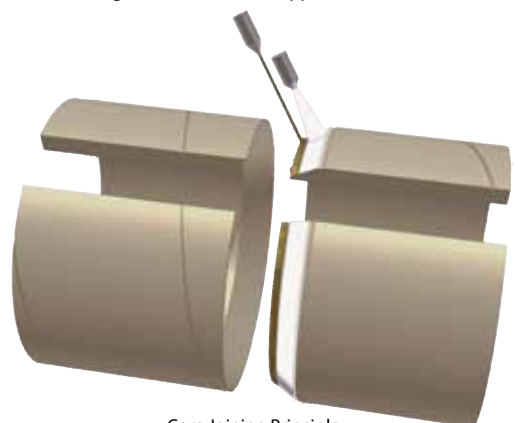
## Principle

Female and male cones are milled in the ends of the clean cut cores whereafter adhesive is applied on the male cone's surface and the two cores are pressed together. The joined core is extruded as long as needed.

Core Link's patented system cuts both the cones with the same tool assuring parallel surfaces to obtain maximum joint strength.

Elimination of damaged core ends will improve turn-up and converting efficiency.

Core joining can reduce the new core purchases by 70%-80%.



Core Joining Principle

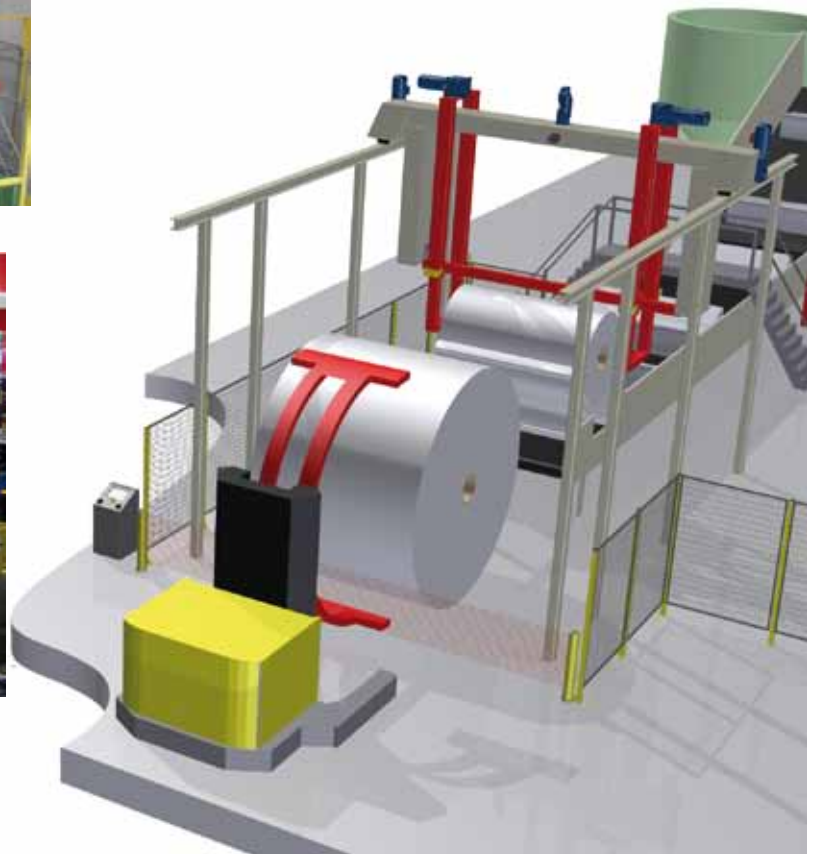
# Tissue/Towel Broke and Butt Roll Handling

With more than 60 installations, one of the most exciting innovations within broke roll handling is the Core Link patented broke roll cutter. It is now enhanced with special patented and patent-pending features for the tissue/towel industry; for example: paper feed control, core checking and core cleaning. These roll cutter features will enable automatic and reliable tissue broke and butt roll cutting along with core cleaning.

- No core damage
- Reduced maintenance cost
- Extended pulper lifetime
- Usage of smaller pulper - less energy consumption
- Reduced pulper cycle time - increased productivity
- Maximal safety for the operators



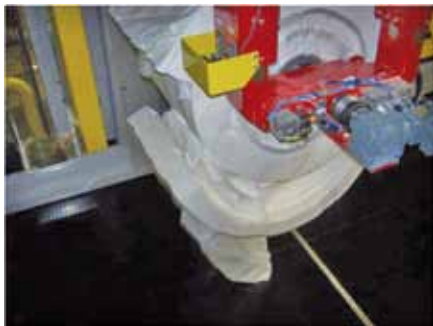
Roll Cutter Tissue



Traversing Broke Roll Cutter, Automatic Roll Pick-up



Broke Roll Suspended from Rotating Chucks



After cutting to an adjustable depth...



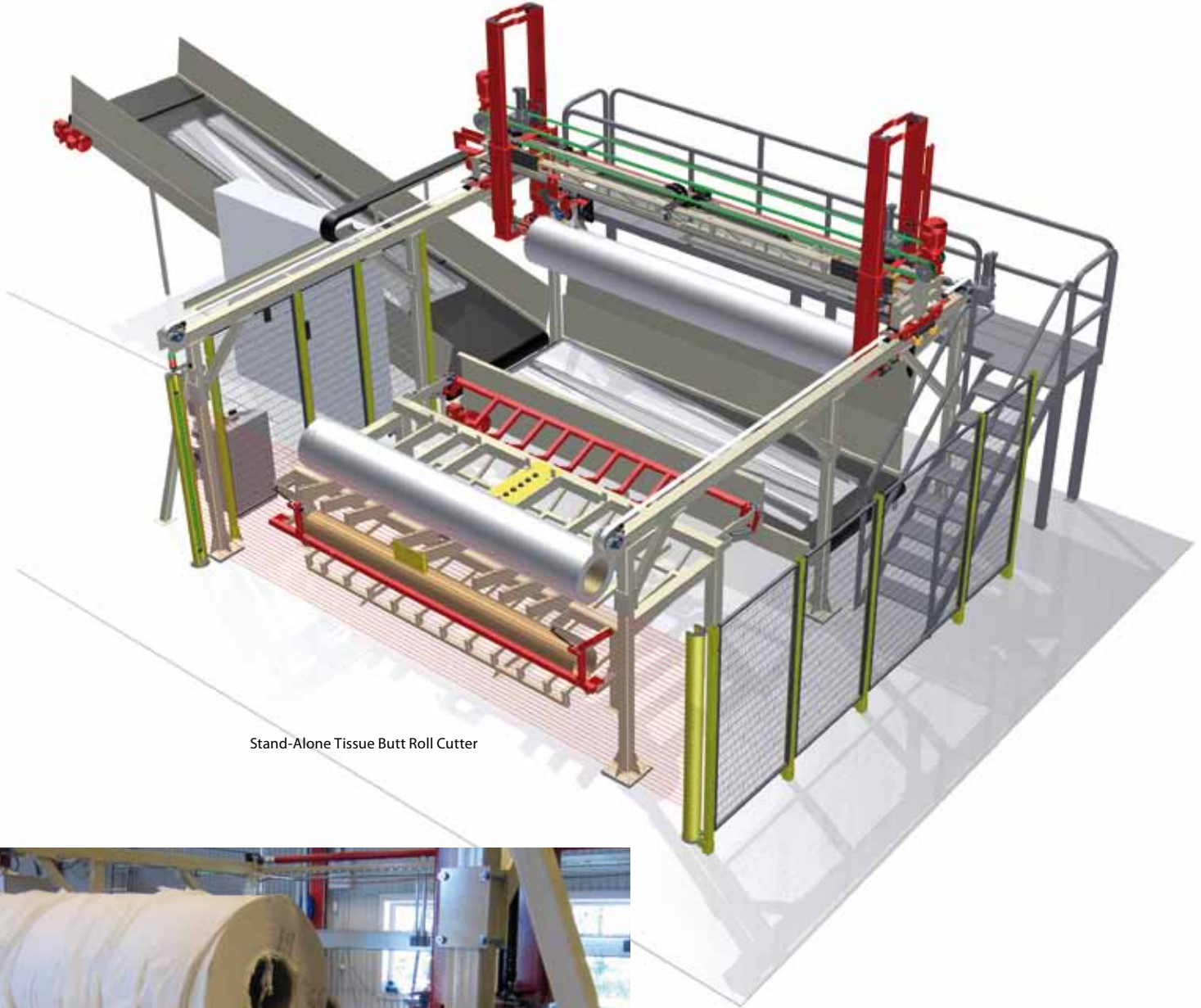
...the Roll is turned on the Rotating Chucks...



...and the Slab is Released in Controlled Manner

## Tissue/Towel Butt Roll Cutter

Converting produces butt rolls which need to be cleaned – Core Link's patented method removes the last layer of paper. No knives in the hands of the operators - improves safety. This feature can also be added to a broke roll cutter. Designs for forklift, clamp truck and pole truck feed are available.



Stand-Alone Tissue Butt Roll Cutter



Butt Roll Cutter in the Shop



Removing the Last Layers of Tissue without Damaging the Core