RETROFIT
FOR A SUSTAINABLE FUTURE

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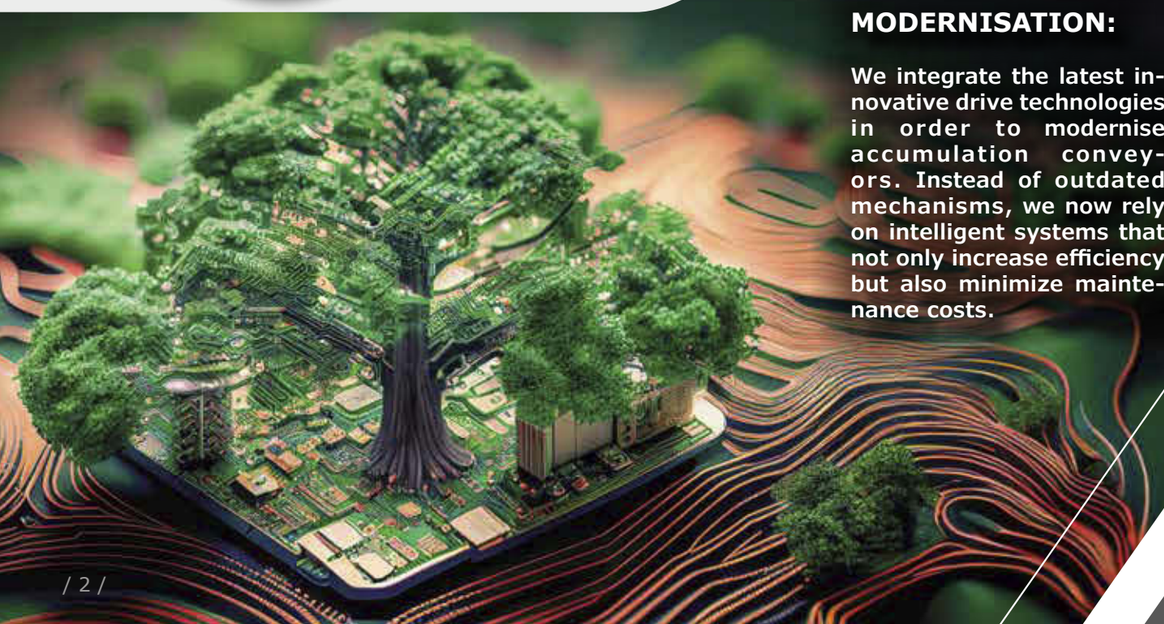
Modernisation of accumulation conveyors for energy-efficient material flow

*TURNING OLD INTO **NEW!***

Old conveyor technology can be improved using modern technologies and innovations. In the past, conveyor lines were equipped with conventional technology. The modernisation of conventional conveying technology using with **MTA drive technology provides the opportunity to improve efficiency, precision and sustainability.**

OUTDATED CONVEYOR LINE:

In the past, **traditional accumulation conveyors** relied on technologies available at the time and **outdated mechanisms such as pneumatics and coupling/brake systems in conjunction with asynchronous technology**. In combination with other mechanical components such as long belts and pressure mechanisms using with rollers, this type of systems are **inefficient** and **require a lot of maintenance**.



MODERNISATION:

We integrate the latest innovative drive technologies in order to modernise accumulation conveyors. Instead of outdated mechanisms, we now rely on intelligent systems that not only increase efficiency but also minimize maintenance costs.

*WHY **RETROFIT?***

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Saves energy, reduces CO_2 and promotes sustainability

Retrofitting plays a key role in the promotion of sustainability through energy savings and the reduction of CO_2 emissions.

Energy-efficient technologies and components are integrated into the existing system by **exchanging inefficient** pneumatic and mechanical **components for drive components from MTA**. The **energy consumption** is thus significantly **reduced** and and the **energy balance improve** considerably. Lowering energy consumption also means that the amount of **CO_2** and other greenhouse gases produced during energy generation is **reduced**.

Retrofitting uses sustainably available resources and reduces the need for new components.

This contributes to minimising the overall ecological impact of the system and **increases** its **service life**.

The implementation of intelligent logistics functions enables **optimum control of energy consumption**. This contributes to substantial savings because energy is only consumed when it is really needed.

Retrofitting not only contributes to energy savings and CO_2 reduction, it also promotes an environmentally conscious and **sustainable** approach to **resource use and infrastructure development**.

Low financing costs, rapid return on investment

Retrofitting with MTA drive technology is a **cost-effective way** of improving existing systems and achieving a **fast ROI**, especially when it comes to energy savings, operational efficiency and the use of existing resources.

- **Improvement of the existing system, no totally new investment**
- **Low investment costs compared to a new system**
- **Very short installation and commissioning times, rapid return on investment**
- **Reduction of operating cots, long-term cost savings**
- **Utilisation of subsidies for environmental or energy-saving goals**

Increases productivity

The integration of new technologies in existing system offers more advanced and powerful functions. This helps to increase the **performance of the system**, which improves the competitiveness.

- **Reduction of downtime, increase in availability**
- **Minimisation of maintenance and planned downtime**
- **Further use of resources that have already been invested in**
- **Improved efficiency and increased productivity**
- **Sustainable use of resources**

Increased service life of the conveying system

Retrofitting is the targeted modernisation, adaptation and improvement of existing systems, which can help to **extend** their **service life significantly**. This is particularly important in industries where the replacement of systems is associated with high costs and long-term utilisation makes economic sense.

- **Longer use of existing systems**
- **The existing infrastructure is optimised and modernised**
- **Extending the service life of the whole system**
- **Achieving compliance with current safety, environmental and industrial standards**
- **Implementing advanced maintenance technologies (predictive maintenance)**
- **Reduction of wear, increased reliability**

The reduction of noise emissions

The use of gearless and therefore low-noise motorized rollers from MTA plays a decisive role in retrofitting by offering the possibility of adapting older systems to make them **quieter** and **more environmentally friendly**.

- **Creating more pleasant and healthier living and working conditions**
- **Improving the quality of life**
- **Complying with environmental requirements**

Improvement of work quality

Retrofitting with MTA drive components reduces environmental emissions, **protects the environment**, improves work quality by promoting the **health of staff**, strengthens the image of the company and leads to more efficient use of resources.

- **Reduces emissions, creates quiet and clean working conditions**
- **Increases concentration and reduces stress**
- **Improves the physical and psychological health of staff**
- **Improves general well-being because of environmentally friendly surroundings**
- **Promotes staff awareness of positive contributions to environmental protection**
- **Supports compliance with legal regulations and standards**

Minimum number of spare parts, low warehousing costs

Through the **reduction** of many **components** and the use of standardised MTA drive components, the variety of components is reduced and the number of available **spare parts mini-mised**.

- **Reduction of the number of components in comparison to outdated systems**
- **Minimum number of different spare parts**
- **Extension of the service life of existing infrastructure**
- **Reduction of storage costs for spare parts**

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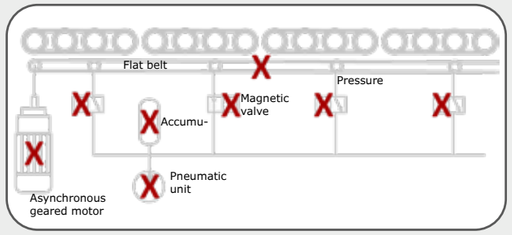
RETROFITTING WITH **MTA**

BEFORE:



AFTER:

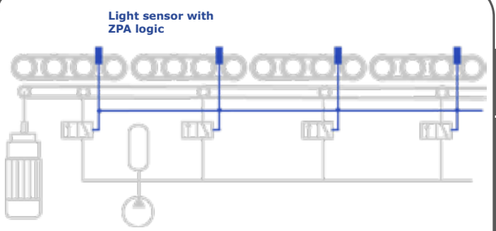
After retrofitting, the accumulation conveyors are fully electrified. **Pneumatic and mechanical components are reduced** in order to increase reliability and minimise necessary maintenance.

In comparison, **significantly fewer parts are used** in an accumulator conveyor with MTA drive components.

Plug and play implementation using MTA drive technology

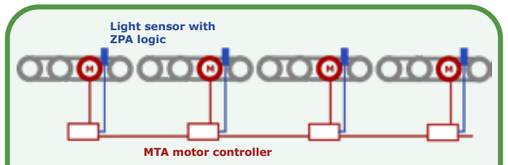
The existing sensor technology is retained and at the same time the MTA technology is integrated using plug and play functionality. The very **simple** and **rapid conversion** allows smooth modernisation without impairing the existing sensor infrastructure.

BEFORE:

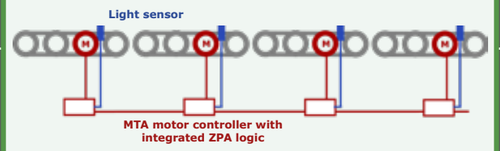


Outdated conveyor belt with ZPA function integrated in the light sensor (zero pressure accumulation).

AFTER:



Modernised conveying belt with MTA drive components. ZPA function of existing system is retained. The existing sensor infrastructure remains unchanged.



Alternatively, the ZPA function in the MTA motor controller can be implemented with integrated ZPA logic.

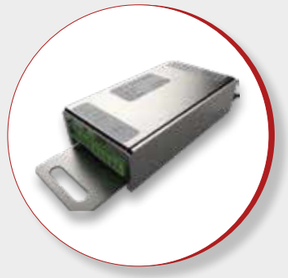
- **Simple integration and compatible with all older conveying technology systems**
- **Plug and play solution reduces downtimes to a minimum during the conversion**
- **Pre-configured components, user-friendly installation**
- **Prefabricated cabling, allows rapid integration and reduces assembly times on site**
- **MTA existing conditions analysis on site for a smooth conversion process**

Motorized roller

Motorized roller in gearless design for low-noise transport in storage and conveyor technology up to a transport weight of 50 kg

Technical data	
Power	23 W and 35 W
Voltage	24 VDC and 48 VDC
Speed	0 - 1 m/s
Clamping length	170 - 1300 mm
Diameter	50 mm

Motor controller



Motor controller for controlling the motorized roller and **integration into the system's existing logistics function** for zero pressure accumulation conveying

Technical data	
Power supply	24 VDC
Motor start	Via system-side logistics function on digital input
Speed	Pre-configured or optionally via digital input or 3 digital inputs
Direction of rotation	Pre-configured or optionally via analogue input
Error message	Digital output

Logistic controller

Logistic controller for the regulation of the motorized roller **including the logistics function** for zero pressure accumulation conveying (ZPA function)

Technical data	
Power supply	24 VDC
Light sensor	2
Speed	Pre-configured or optionally via 3 digital inputs
Direction of rotation	Pre-configured or optionally via digital input
Error message	Digital output
ZPA functions	Single inlet, single outlet, Block trigger, sleep/wake function

Successfully implemented retrofit projects

www.mta-innovation.com

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Westbahnstrasse 32
A-4482 Ennsdorf
Austria

T +43 720 920 500
Email: office@mta-innovation.com
Internet: www.mta-innovation.com

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