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Lubo
Recycling
Solutions

**SMART COLLABORATION FOR A
POWERFUL Z-CONVEYOR SOLUTION**

Collaboration between Lubo Systems, LBS Conveyor Belts, and Tempo Trommels en Rollen

Background

For an international recycling project, Lubo Systems needed to replace an existing straight conveyor belt with a compact Z-belt system. The new system had to save space and bridge heights more quickly, without compromising capacity or reliability. Since the system was being exported to the United States, the solution had to be fully warranty-compliant and technically sound.

The Problem

The original belt configuration proved to be less suitable and could be improved to a Z-configuration. The main challenges were:

- **Maintaining capacity:** the cleats had to remain 1200 mm long to ensure maximum fill rate.
- **Insufficient width stability:** in the return path, the belt sagged and ran incorrectly in the rollers.
- **Temporary center support:** an additional support roller partially solved the problem, but increased the load and risks for future applications.

Conclusion: not just the belt, but the entire belt and roller configuration needed to be redesigned.

Would you like to read more about this case? Scan the QR code.



“LBS knows what they’re talking about. They think along with us, keep us on our toes, and stay involved until everything is right. That gave us the confidence that this complex installation would simply work.”

– Lubo Systems

The technical approach

Lubo engaged LBS (specialist belt expertise) and Tempo (rollers and components). For approximately 6 months, there was intensive collaboration involving calculations, testing, and design optimizations.

Key decisions:

- **Stronger, 4-ply XE/630 conveyor belt** for sufficient width stability during upward and downward bends.
- **Optimization of edge-free zones** to maintain effective belt width.
- **New frame with larger drums** for a favorable bending radius.
- **110 mm hot vulcanized cleats (Hotcleat®)** combined with **120 mm high hot vulcanized sidewalls (Hotwall)**, without loss of capacity.
- **Transition from center support to side support in the return path**, with two support rollers per meter on both sides to completely prevent sagging.
- **Five deflection rollers** instead of deflection discs, for uniform bending and fewer stress peaks.

The breakthrough lay in the combination of belt strength, bending technology, and roller configuration, not in any single component.

Result

The installation is now operating exactly as intended. In practice, this results in:

- **Consistent, high capacity without product backflow**
- **Stable and smooth belt run, even with heavy waste material**
- **Minimal wear under heavy-duty conditions**
- **Maintenance-friendly construction**

The end user in the U.S. is particularly pleased with the smooth operation of the Z-belt at a steep incline.

Conclusion

Thanks to the combined expertise of Lubo Systems, LBS Conveyor Belts, and Tempo Trommels and Rolls, a compact, robust, and reliable Z-belt system was developed without compromising on capacity. The project is now considered a benchmark solution for recycling applications where space is limited but performance remains essential.