Superior vertical transport solutions

High maintenance costs and limitations placed on airport layouts are forcing operators to look for alternatives to traditional vertically inclined baggage conveyors. Volker Brandt, key account manager at **NERAK**, discusses the merits of straight vertical transporters and his company's unique rubber block chain technology.

Could you give us some background to NERAK?

Volker Brandt: NERAK is a family-owned specialist in high-quality vertical transport for a variety of goods and materials, including baggage, batteries, beer kegs, boxes, detergents, refrigerators, salt, sand, sugar, tyres and full-size pallets weighing up to 2,500kg.

The firm was founded in 1987 by two German engineers, Heinrich Neddermeyer and Manfred Dworak. We have operations in China, Germany, Scandinavia, the UK and the US, primarily running our own production, engineering and sales services. We employ approximately 240 employees and generate revenue of around $50m.

We have representatives in all major industrial countries, ensuring a local presence and fast service for our customers.

What baggage transportation challenges are airports currently facing?

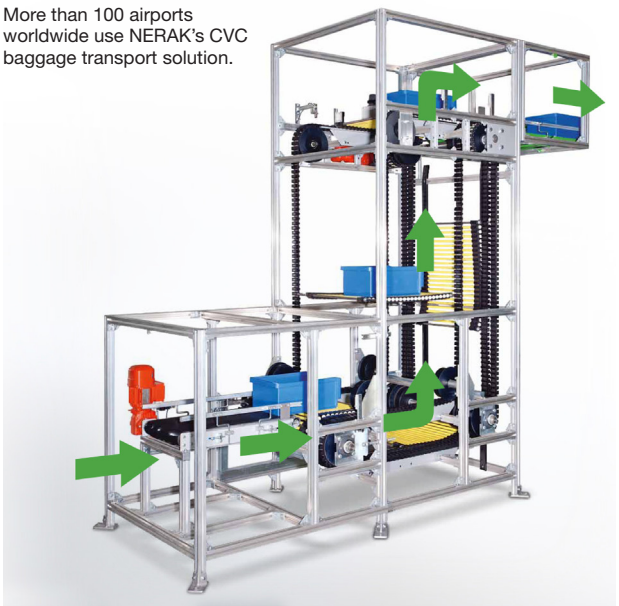
Loose baggage is always difficult to handle. It does not have defined shape, size or weight, and can include anything from small board cases to duffle bags, golf clubs, large rucksacks and skis. Handling all these different sizes and types in one system, preferably without additional trays that have to be returned, can be highly problematic for airports.

The other major challenge is architectural. The traditional method of vertical baggage transport – inclining conveyors – requires architects to plan for ceiling openings. This can be difficult, especially as conveyors running over several levels need holes in different positions on each floor. The result is that transport technology dictates, to an extent, how architects design their buildings.

Part of the popularity of these traditional products lies in their low cost; manufacturers often already produce straight conveyor lines, so they can use their own in-house products to make them.

Are other types of baggage conveyor available?

Spiral lifts are another potential solution, particularly if high capacity is required. Though they have the architectural benefit of going straight up and down, maintenance is expensive in terms of finance and labour costs. On single-belt spirals with plastic module belts, heights are also limited. Another disadvantage for spirals is that loads are not transported horizontal.



More than 100 airports worldwide use NERAK's CVC baggage transport solution.

The third option is NERAK's Continuous Vertical Conveyor (CVC), also known as S-Conveyor. Like the spiral, it allows openings to be made straight above each other, making life much easier for architects; it is also significantly lower in cost.

What other advantages does the CVC or S-Conveyor have over the competition?

The CVC has a much smaller footprint; approximately 25% of a spiral lift and less than 10% of an inclining baggage conveyor. It also doesn't have a belt, which can often be very expensive to repair or replace. Instead, CVC operates with rubber block chains, which are unique to the market.

NERAK has supplied CVCs for loose-baggage handling since 1998. There are now more than 100 of these systems running in major and smaller airports around the world, including Bangkok, Dallas, Domodedovo, Dubai, Frankfurt, Gatwick, Heathrow, Johannesburg, Kuala Lumpur, Sydney and Toronto.

Can you describe the key benefits of rubber block chains?

Steel chains are strong, but even the most resilient can break, and if just one link gives way the whole thing comes down.

NERAK rubber block chains have several steel cables inside that hold and carry the load. Consequently, if

jamming occurs, only that one block is broken – the chain itself will hold, and the rubber block will stay in place. The broken block can then be re-vulcanised inside the machine, so disassembling for repair is not necessary.

Our rubber block chains are grease-free, which makes for a very clean operation. The rubber also absorbs most of the running sounds, which keeps operational noise down (a necessary consideration in public areas such as check-in zones). Another important benefit is that they do not stretch, so frequent tensioning is not necessary; this ensures maintenance costs are minimised.

How do you ensure the quality of a unique product such as a rubber block chain?

Rubber block chains are made in a separate NERAK-owned factory. The raw rubber and steel cables come from high-quality suppliers, and are checked on arrival and prior to usage against chemical and physical parameters. Strength and size are also statistically checked and documented.

Do you have any new products in the pipeline?

We normally develop new products in response to market demands, such as the new PH Portal Lifter. This reciprocating lift has a centred carrier structure to avoid the bending moments of the typical cantilever-type lifts. It's a new design that reduces wear on guiding and running wheels as well as significantly bringing down power consumption. We are currently working on a number of ideas and developments that will be made public in due course.

How do you see vertical conveyance systems developing over the years to come?

The world is getting smaller. Population increases are turning real estate into a luxury commodity, not only in Europe and Japan, but also in the US and China. Technology that saves on space, such as vertical transporters, will therefore become increasingly popular.

System designers and suppliers will also increasingly look to partner with experienced and specialised vertical baggage transport providers such as NERAK.

Straight vertical transport is much easier to design around than inclining conveyors, and high capacity requirements almost necessitate using the CVC, since reciprocating lifts can carry only a limited number of bags. This combination of factors, along with the CVC's small footprint, excellent reliability and low operational costs, will mean it is in high demand over the years to come. ■

Further information
NERAK
www.nerak.de/start.html