

# CASE STUDY

CO-INVENTION OF  
A TUBULAR LINEAR  
MOTOR PLATFORM  
WITH A GLOBAL  
FOOD PACKAGING  
CUSTOMER



## CONTEXT

A Global Food Packaging customer required a high-force linear motor solution for food and beverage environments where conventional flat-bed linear motors posed safety risks, high system cost, and insufficient washdown performance. Static attractive forces created serious OHS concerns, while corrosion and IP limitations constrained use in harsh cleaning regimes.

## CO-INVENTION CHALLENGE

At project commencement, key aspects of the solution were uncertain, including motor architecture, shaft guidance, bushing life, sensor integration, manufacturability, and total system cost. Requirements could not be fully specified upfront without risking rework and delay. Approach The approach centred on a bounded early phase, focused on prototyping and evidence generation. ANCA Motion's integrated mechanical, electrical, control, firmware, and manufacturing capability enabled early trade-off decisions to be assessed realistically, with prototyping used to expose and retire the highest technical risks.

## SOLUTION

The outcome was the LinX® T-Series tubular linear motor, eliminating static attractive force and enabling safer operation. The design incorporated a novel axial bushing system allowing simpler linear guides, stainless steel and nickel-coated construction for chemical resistance, high continuous force with air cooling, and an adapted magnetic position sensor architecture compatible with existing AMD2000 drives.

## VALIDATION & OUTCOME

The motor met all agreed product requirements, achieving IP67 and passing full EMC testing. Pilot builds were completed across multiple ANCA sites, and the project was delivered within budget. The result was a new saleable product platform for ANCA Motion and a safer, more robust solution for a Global Food Packaging customer, with a clear path to volume production and commercialisation.