



*Positioning a large structure in a precise location is more ergonomic and reliable when it is floating on air instead of using a forklift, crane, or rail system.*

## Factory OS: Changing the Way Housing is Built

Increased demand for affordable housing is good business for Factory OS. A builder of pre-fab modular structures for decades, they attained an additional contract in 2017 to design and construct modern, high-end workforce housing. It was time to find a new manufacturing facility to ramp up production. Their answer: repurpose a 256,700 sq. ft. abandoned submarine production facility in Vallejo, CA. They then set about designing their factory process and flow, a challenge in a building 957 feet long and ten stories tall.

A primary objective of the remodel was to assure long term manufacturing flexibility well beyond the movement of current configurations of structures/boxes. The 30,000 lb. boxes being built right now are just the tip of the iceberg. Modular multifamily homes, construction site buildings, apartments, transit stations, affordable housing, hospitals...the market is ripe for all types of modular.

After a comprehensive research into material handling methods used in all types of industries, a pivotal decision was made to utilize air bearings to move boxes at the new facility. They had already planned to pipe compressed air throughout the facility. "We came to realize that air bearings can accommodate any size, shape, height, weight of structure – limitless possibilities, really. The flexibility, ergonomics and safety of air bearings made the decision for us," stated Tim Nichols.



*It takes less than 10 minutes to lift and move a 50' long, 30,000 lb. structure from workstation to workstation using air bearings.*



*Factory magic: the AeroGo air caster system uses compressed air to lift, float and move structures up to 70,000 lbs.*

Air bearings, also known as air casters, are the cornerstone of the assembly process. Each box is lifted and moved using ten AeroGo air bearings, slid under the box and hooked to compressed air. The boxes move effortlessly through assembly to each of 30 workstations. Each move requires 8 workers along the sides and back of the box as spotters, but the time to move the box is fast – just a couple minutes. Floating boxes on 100 psi of compressed air reduces friction, which makes moving 30,000 lb. boxes a low-impact endeavor for workers. Placing the box in the next workstation is seamless and precise. “It is an easy system to implement, requiring very little training,” stated Paul Jakse, Vice President of Sales at AeroGo.

If required, a box can be pulled off the line for custom work or re-engineering at any time without disrupting workflow. The safe, smooth movement of boxes through the factory facilitates Factory OS’ goal for manufacturing flexibility. The AeroGo air bearing solution facilitates predictable scheduling, less wasted space, reduced production time, and increased job safety. The air bearing system has already realized ergonomic and production gains in the new facility. With their new factory and manufacturing methods, Factory OS is living their company slogan; they truly are Changing the Way Housing is Built.

[www.factoryos.com](http://www.factoryos.com)

[www.aerogo.com/industries/modular-structures](http://www.aerogo.com/industries/modular-structures)

See a video of the process in action at:

<https://vimeo.com/312841614>

**Air compressor + factory-wide piping + Air Bearings = a safe, ergonomic process**



*Pre-fab structures float on air bearings as they progress through 30 assembly workstations.*