

From Training Simulation to Safety: Novelis' Zero-Collision Benchmark for Lift Truck Operators

About NOVELIS

Novelis is a leading sustainable aluminum solutions provider and a world leader in aluminum rolling and recycling. Driven by its purpose of “shaping a sustainable world together,” Novelis works alongside customers to provide innovative, low-carbon, and high-recycled-content aluminum solutions to the aerospace, automotive, beverage packaging and specialty markets.

Headquartered in Atlanta, GA (USA), Novelis operates an integrated network of 32 manufacturing facilities across 9 countries in North America, South America, Europe and Asia.



Logan Aluminum, located in Russellville, Kentucky (USA), is the single largest rolling mill in North America producing aluminum sheet for beverage cans.

The plant is jointly owned by Novelis and Tri-Arrows Aluminum.

NOVELIS and Simlog

In an effort to improve lift truck safety and operational efficiency (especially in its on-boarding of new operators), Novelis North America first contacted Simlog in 2018, and then purchased one “Forklift Personal Simulator” the following year for evaluation at the Novelis plant in Oswego NY.

After successfully “test driving” in Oswego, the setup and training model were loaned to other Novelis plants in North America. Logan Aluminum purchased their own unit in 2021 (described in the next section).

The importance of promoting what became, with Simlog help, best practices for lift truck operator training, led to subsequent purchasing in 2023 for all the other Novelis plants in North America: 12 locations in USA, 1 location in Canada.

In parallel, Novelis plants in China and South Korea also became Simlog customers to deploy exactly the same setup.

Spotlight on Logan Aluminum

At Logan Aluminum, “Safety is our #1 Value”, along with “a vision to demonstrate an increasing capability to operate injury free”.

And with over 1,500 employees, there’s an ongoing commitment, shared with Novelis more generally, to introduce “non-traditional” learning methods such as simulators to improve operator training and make operations safer.

In part because of its size, and in part because of previous experience with other kinds of training simulators e.g. for overhead bridge cranes operations, Logan Aluminum became Novelis North America’s “lead” plant (for Simlog), as presented in the next section.

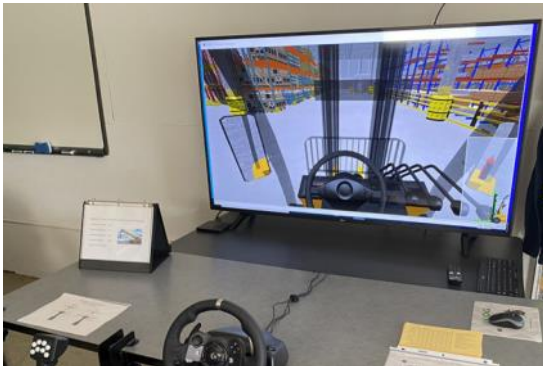
Practically, there are about 85 (sit-down counterbalanced) lift trucks at Logan Aluminum, and 600 certified lift truck operators.

The *Forklift Personal Simulator* Setup at Logan Aluminum

In 2018, Logan Aluminum added Simlog's "Forklift Personal Simulator" to introduce a training simulation "step" to complement the "hands-on" experience already taking place.

As shown here, the Forklift Personal Simulator setup consists of the following elements:

- Simlog's tabletop Replica Controls
- one "big screen" display in front, for looking forwards
- one "big screen" display in back, to teach people to turn their head to look backwards when moving backwards
- an office chair with a seatbelt added, to "remind" people to buckle up, just like they should do in the cabin of real lift trucks.



About Simulator-Based Help for Onboarding New Hires

At Logan Aluminum, onboarding a new lift truck operator begins with a "New Hire" Class that

includes a short simulator-based introduction to lift truck operations.

After that "orientation", the new hire is assigned to a particular "team" in the plant for operator training that includes more simulated-based work.

For this second "step", training staff typically choose the "Loading Docks 1" Simulation Module that features the loading or unloading of a single "row" of standard palletized loads in a truck or trailer.



Practically, that means learning to:

- drive forwards and backwards
- steer (rear-wheel steering is something new)
- safely enter and exit the truck or trailer
- work with the forks to pick up and put down the palletized loads, at designated locations

(Note that subsequent "Loading Docks" modules make the loading and unloading work more difficult, with stacking and unstacking smaller loads arranged in double rows.)

Proficiency at the simulator is measured by the *absence* of collisions. In this way, the focus is placed on safety from the get-go, and counting collisions (or rather the absence of collisions) is, of course, the simplest way to measure "working carefully".

Practically, the simulation software counts all kinds of collisions and by way of example, here's the list of the 20 "Performance Indicators" from that "Loading Docks 1" simulation module:

- a fork with the shop floor, a load, a rack, a shelf, an obstacle, or the truck or trailer (6 kinds of collisions)
- a load with another load, a rack, a shelf, an obstacle, or the truck or trailer (5 kinds of collisions)
- the mast with a rack, a shelf, an obstacle, or the truck or trailer (4 kinds of collisions)
- the forklift chassis with a load, a rack, a shelf, an obstacle, or the truck or trailer (5 kinds of collisions)

But when incidents (accidents) occur on the shop floor, the same Forklift Personal Simulator is used to investigate, to try to understand what happened (in the real world) and take corrective action that would include operator re-certification.

Concluding Marks

To date, Logan Aluminum has onboarded hundreds of new lift truck operators with simulator-based help.

And according to J.T. Major, Safety Specialist:
"Our Simlog system has been very beneficial to us as we provide a safe and controlled learning environment."

SIMLOG

To learn more,
contact us:

Simlog
www.simlog.com

To learn more
about our customers:

NOVELIS
www.novelis.com

Logan Aluminum
www.logan-aluminum.com