LUCI

WHAT LUCI SEES

LUCI prevents power wheelchair tips, collisions, and falls before they happen, thanks to a platform which helps the wheelchair "see" its environment and respond to steering input from the user.

The result is safe, confident independence.

WHEELCHAIR SMARTER

AWARD-WINNING SMART WHEELCHAIR TECHNOLOGY
RE-IMAGINING MOBILITY AT EVERY TURN.

LUCI's combination of sensors were selected to help you best navigate everyday environments. LUCI adds hardware and software to a driver's new or existing power wheelchair.

Our patented system combines data from cameras, ultrasonics, and radar into a single view of the world and scans its surroundings ten times per second. When the LUCI software identifies a collision obstacle or unsafe drop-off in the direction of travel it slows and then stops the chair.

This allows LUCI to be situationally aware and **CROWD CONFIDENT** so when you turn down a busy school hallway or feel like going to a concert, you don't have to think twice about it.

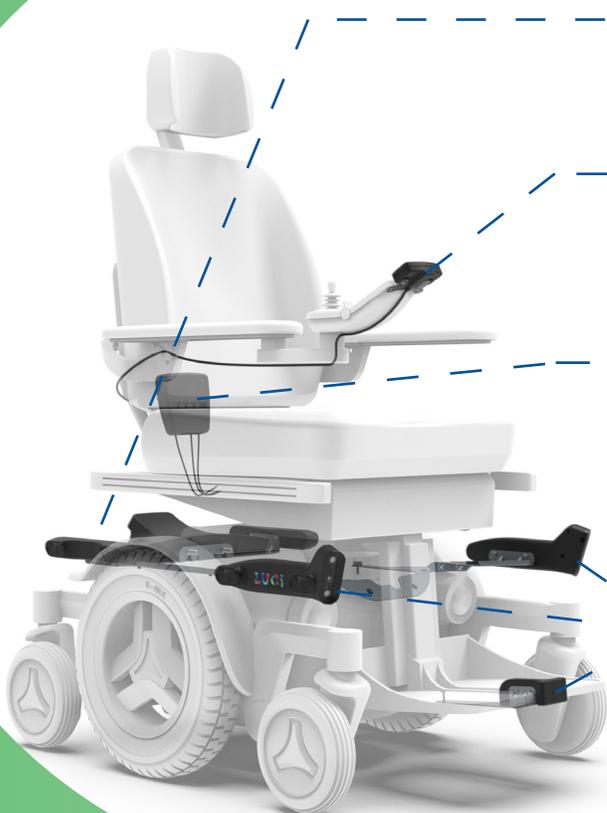Collision Avoidance

Drop-off and Tip Protection

Cloud-based Communication and Alerts

Enhanced Mobility Platform

Home Assistant Compatibility

» The **LUCI SmartFrame™** provides an exact location for each FusionSensor.

» The **Dashboard** allows the driver to provide commands to configure LUCI or temporarily override it for a specific task.

» The **LuciLink Hub™** is the sensor connection highway and houses the **LUCI Wheelchair Key**, which enables secure encryption when customizing your LUCI and transmitting data for viewing on the MyLUCI app.

» The **FusionSensors™** are how LUCI's software cross-checks and validates obstacle and drop-off data to prevent collisions and tip-overs.
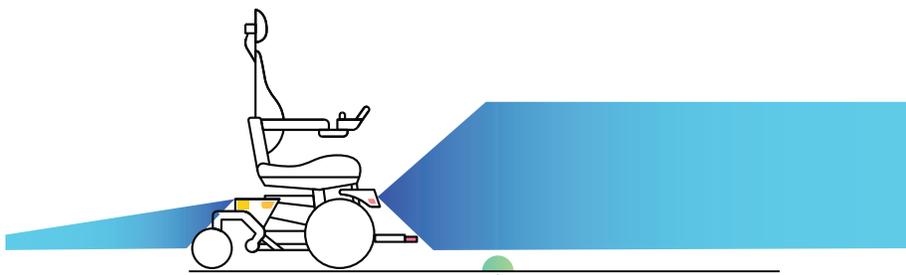
COLLISION AVOIDANCE: 360°

Understanding what LUCI is looking out for - and what it's not - will help you use LUCI successfully. LUCI's sensor coverage is best illustrated from a bird's-eye view:

» **Light blue** represents stereo vision camera coverage.
» **Purple** represents radar coverage.
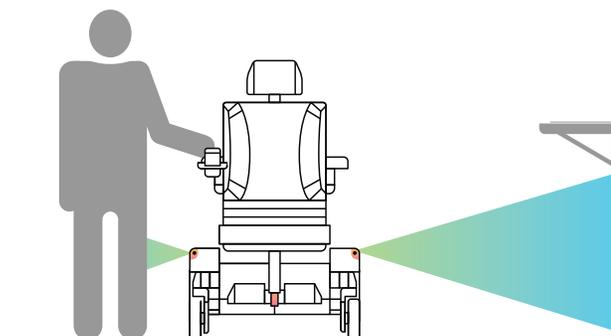» **Green** represents ultrasonic coverage.

LUCI looks out 15 feet in front of the chair and 3-4 feet on the sides and the back so that even when you're moving quickly and LUCI detects an obstacle or unsafe drop-off, LUCI has enough time to slow you down smoothly.

Each power wheelchair is designed to safely climb short heights - like a door threshold or shallow pot hole. The manufacturer specifies safe climbing thresholds for each model of chair, typically between 2.5 to 3 inches. LUCI will not intervene to stop the chair for these safe steps.
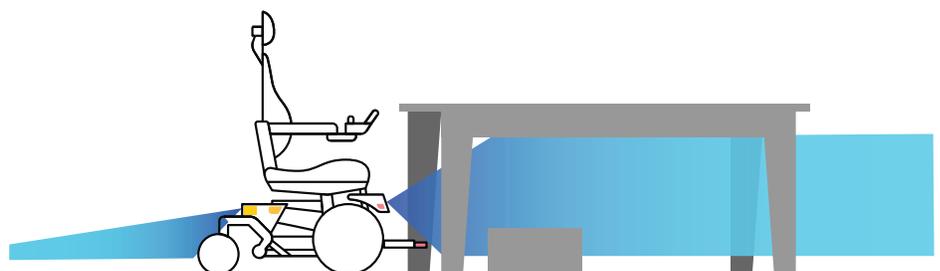
Important details to remember when it comes to front, back, and side clearance for LUCI are:

» To accommodate standard doorways, LUCI is tuned to get as close as 1 inch from obstacles on the sides of the chair. This distance is not adjustable.

» LUCI is designed to allow the chair to pull up under a table and for driver's movement above the armrests. Because of this, LUCI will not see objects up high, like doorknobs, handrails, or wall shelves.

» Because we are ignoring the safe climbing threshold of 2.5 to 3 inches, LUCI will see a person's legs, but may not see their toes.

LUCI PRO TIP: If you have a table that you pull up to regularly, you can place something like a box there so that when LUCI sees it, the system will allow the chair to drive to the same spot every time!
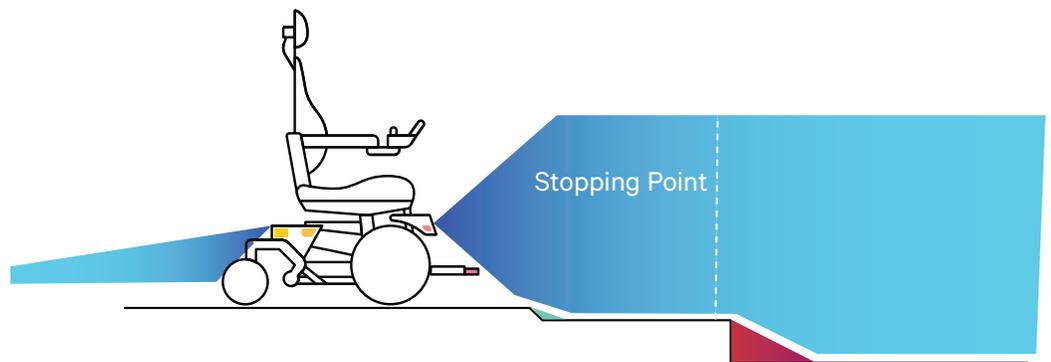
LUCI is compatible with

- Permobil M3
- Permobil F3
- Permobil MVS

- Quickie Q700 M / HD / UP
- Quickie Q500 M
- Quickie Q300 M / Zippie mini

- ROVI X3
- ROVI A3 / Stander
- Amylior R3 Hybrid

DROP-OFF PROTECTION

LUCI monitors ground features to distinguish when you're approaching an unsafe drop-off, such as a curb or a step.

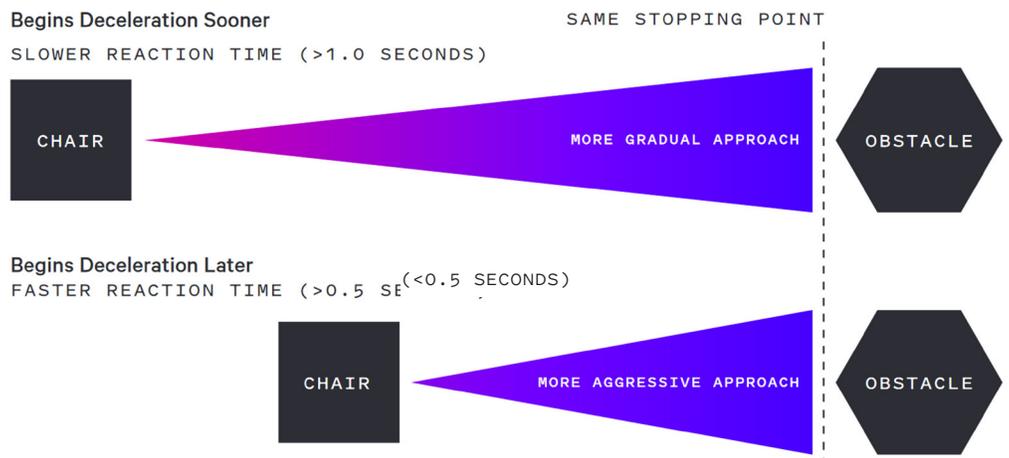When LUCI detects an unsafe drop-off the system will prevent you from accidentally driving over.

A self-aware driver is still important. If you drive the chair at its top speed directly at an unsafe drop-off, though unlikely, LUCI may not be able to overcome the chair's momentum to stop you in time.

Stopping Point

REACTION TIME

LUCI is designed to keep the world within the driver's ability to react to it. This means the software will automatically adjust its slowing parameters based on how quickly the driver can interpret a potential collision obstacle or unsafe drop-off.

For example, if a user has a slow reaction time, when LUCI detects an obstacle, it will slow the chair down sooner and more gradually.
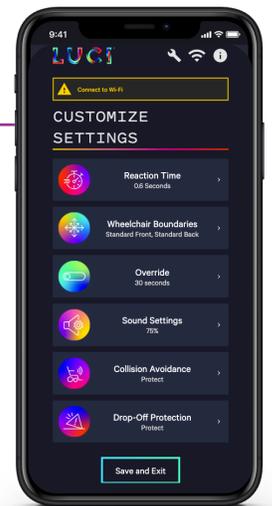
A driver with a fast reaction time, comparatively, will be allowed to get much closer before LUCI intervenes to slow the chair down.

Begins Deceleration Sooner
SLOWER REACTION TIME (>1.0 SECONDS)

SAME STOPPING POINT

CHAIR

MORE GRADUAL APPROACH

OBSTACLE

Begins Deceleration Later
FASTER REACTION TIME (>0.5 SE(<0.5 SECONDS)

CHAIR

MORE AGGRESSIVE APPROACH

OBSTACLE

MAKE LUCI YOUR OWN

There are plenty of ways to tailor LUCI to your specific preferences and it doesn't require that you download an app or have access to a specialized programming tool. You just need any smart device that can connect to Wi-Fi, like a cell phone, laptop, or tablet. Once connected to the **LUCI Setup Tool** you can adjust any of the following settings, and more!

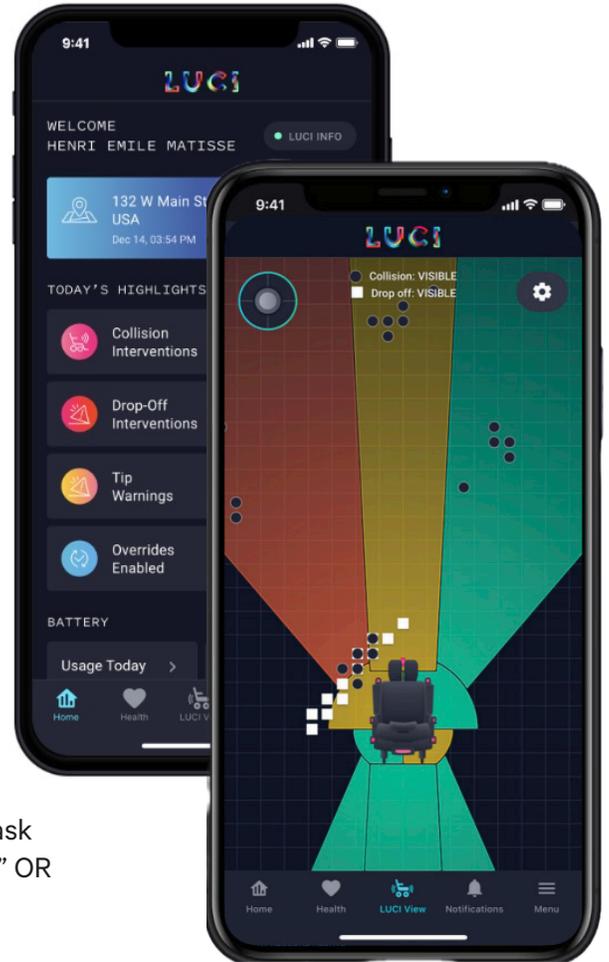|		
Wheelchair Parameters	Adjust how far away LUCI stops from obstacles in the front and the back.	If you have specialized equipment or positioning needs in the front or the back of the chair, LUCI can accommodate this by customizing the stopping distance.
Reaction Time	LUCI will tailor how it slows to the user's reaction time.	You can take a reaction time test and this will adjust how soon LUCI will intervene to slow the chair.
Override	Press the blue LUCI button on the dashboard once to temporarily disable the sensors.	Sometimes, you might just want to get the technology out of your way! So, if you need to push through a door, or get extra close to a bed or chair for a transfer, you can simply press the blue LUCI button once and the sensors will turn off. The timing and drive speed of LUCI in override can be tailored to your specific needs.
Attendant Joystick	When the Attendant Joystick profile is active, LUCI will not turn on.	Caregivers have the option to turn LUCI off while the attendant joystick profile is engaged.
White Cane Filter	LUCI will ignore the predictable swooshing pattern of a white cane.	For our low-vision and no-vision drivers who use a white cane, this feature will allow you to navigate your world more easily and seamlessly.

ALWAYS GETTING BETTER

When you connect your LUCI to your home Wi-Fi, your system will automatically receive over-the-air software updates with the latest and greatest features and system improvements.

That means when we get better you get better, instantaneously!

MyLUCI™ AND THE LuciView™ VISUALIZER

The MyLUCI App allows you to see your wheelchair and LUCI information so that you can take action:

» **View wheelchair information**
  See your battery usage and miles driven.

» **View LUCI information**
  Track your overrides and how many collisions you've avoided throughout your day.

» **Manage your health**
  Connect your wearable health monitors, like Apple Watch or Google Fit, to MyLUCI to get notifications.

» **Invite caregivers and share data**
  You are in control of how your data is shared. Through the MyLUCI App you can easily set up care team accounts and toggle on/off what portions of the MyLUCI data they can see.

» **Trigger notifications on certain events**
  Anyone you have shared your location data with can receive event notifications - say your chair ran out of power or you tip over when you're outside the home, LUCI will let your care team know with your GPS location.

» **Connect to Alexa and Google Voice**
  Have a LUCI question? Just ask your voice assistant. You can ask questions like: "Hey Alexa, ask my LUCI what this light means?" OR "Hey Google, ask my LUCI if my chair's battery is charged."

Get a live stream of what your LUCI sensors are detecting inside the app through the **LuciView Visualizer.** This acts as your very own back-up camera, obstacle detection, and navigation device for your power wheelchair!

See LUCI in action

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Join the conversation