

SmartDrive: Beyond the Set Up

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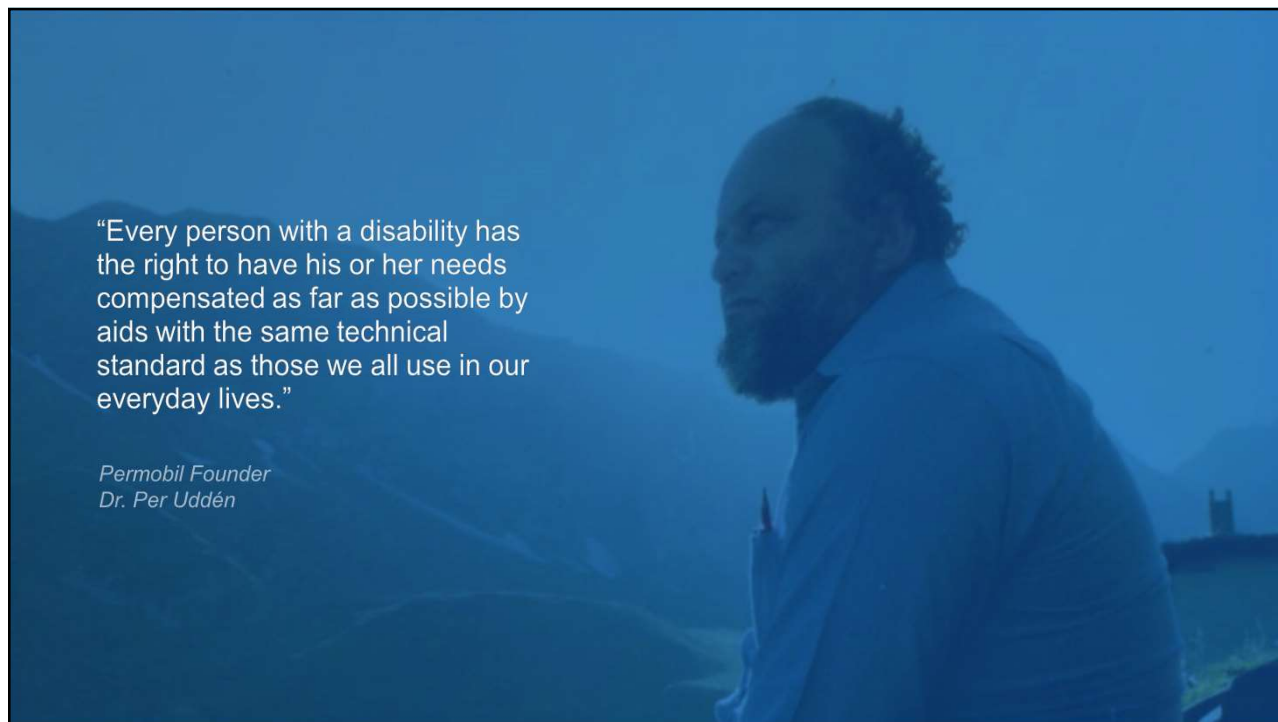
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Outline

 Permobil's "Why"	 SmartDrive <i>-Features</i> <i>-Unique applications</i>	 PushTracker E2 <i>-Updates</i> <i>-Specific features</i>	 Live Q&A
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Mobility is a Human Right



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Why SmartDrive?

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Disadvantages on UEs

Propulsion

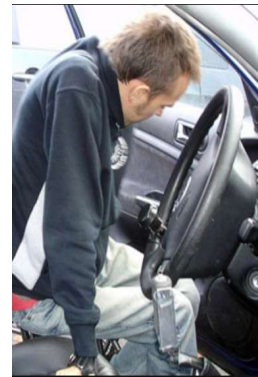


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Reaching



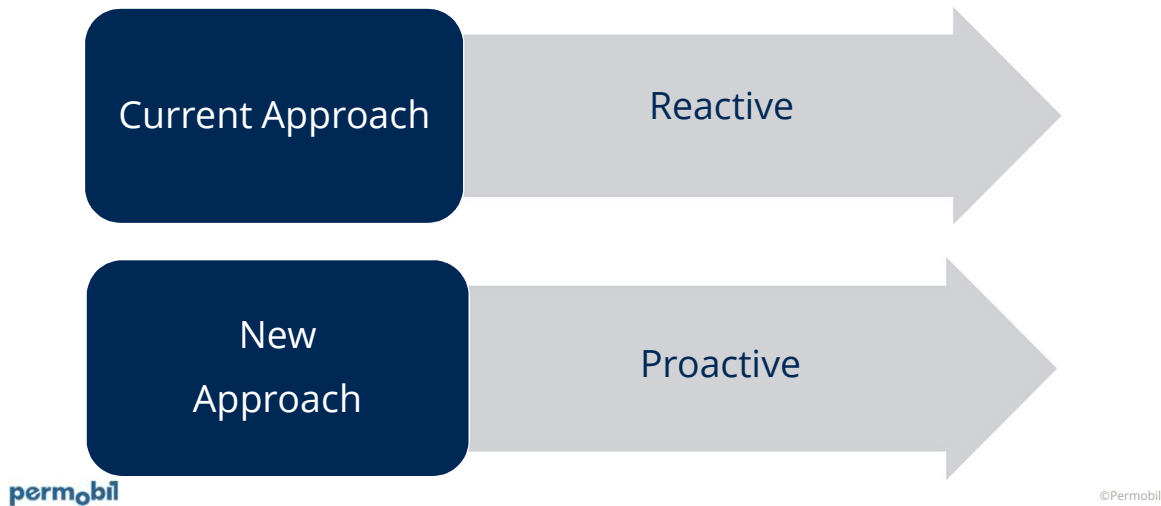
Transfers



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The New Why

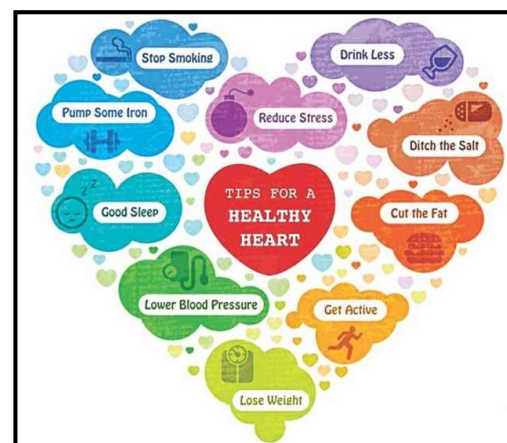


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Proactive Approach

Consider success of proactive cardiac care campaign

Model proactive wheelchair work



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The Solution... SmartDrive!

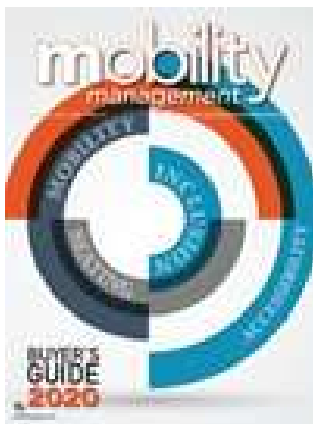


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Published Product Praise



"Permobil's SmartDrive accomplishes this by giving manual wheelchair users several ways to access and use its world-expanding technology."

Laurie Watanabe – Mobility Management

https://mobilitymgmt.com/articles/2019/12/20/smartdrive-pushtracker-e2-switch-control.aspx?s=emob_060120&admgarea=emob&oly_enc_id=

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SmartDrive's Intentional Design

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Strategic Placement Promotes Propulsion

SD weight beneath client's center of mass

Maximizes efficiency of propulsion

Impact of rear wheel selection

- Standard
- Performance



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Patented OmniWheel



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Deliberately designed
 Minimizes drag
 Optimizes traction
 No motor improves propulsion
 Performance through varying surfaces & terrains

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Ergonomic Handle

Handle design

Handle placement

Weight distribution considerations



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Transportation

No compromises to MWC set-up

No vehicle lift necessary

Lightweight



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SmartDrive Controls –An Option for Any User

SwitchControl Only

(low tech)



Original PushTracker

(mid tech)



PushTracker E2

(high tech)



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PushTracker E2 vs. Original PushTracker

Choose

Users who choose not to get the PT E2 must use PT app for:

- Switch control setting management
- Software updates

Standard PT may be requested for:

- Pediatrics
- Frail people who dislike large watch face
- Elderly who prefer lower-tech PT



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Unique Applications of SmartDrive

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SwitchControl: Hemipropulsion



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Use to maximize efficiency of hemipropulsion pattern

Switches for individuals with impaired proprioception and/or coordination

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SwitchControl: Tilt-in-Space Manual Wheelchair



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Hemipropulsion

Custom rear mount

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SwitchControl: Mono Jack Port

Custom application

Foot-operated SwitchControl



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SwitchControl: One Arm Drive

Main Rim Steers
Same Direction

Outer Rim Steers
Opposite




Eliminates Exertion and Difficulty
Steering



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Provider Set Up Guide

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Provider Set Up Guide



SmartDrive E2
Power your up till and range, over 1000
miles, and long distances.

SmartDrive MCE2
Power your up till and range, over 1000
miles, and long distances.

SmartDrive MCE2
Power your up till and range, over 1000
miles, and long distances.

SmartDrive MCE2
Power your up till and range, over 1000
miles, and long distances.

Choose to do more

SmartDrive was designed to seamlessly integrate an on-demand power assist for manual wheelchair users, and now provides more control over their mobility than ever before.

The PushTracker E2 and SwitchControl work separately or together to give users customizable ways to control their SmartDrive, track its impact and gain insights to improve their mobility needs. And, the original PushTracker is still available for those who prefer that as their way for controlling SmartDrive.

What control option is best for your client?

Does your client prefer the most advanced tech?

Does your client have a smart phone?

Does your client need a simple control method?

Does your client adjust well to new/lighter technologies?

How to set up the PushTracker E2

The PushTracker E2 requires a smart phone for set up, and will have to be configured by the dealer, the client, the Permobil rep, or the client themselves. The set up that is done upfront is well worth the improvements from the PushTracker E2 upgrade and may even take less time than the original PushTracker once you are familiar with it.

Set up: Things to consider

1. Set up time will be dependent upon access to and quality of WiFi
2. Set up time should take 25-35 minutes the first few times
3. Set up time will get faster with practice
4. Your client will have to have a Google account to perform set up
5. You (as dealer locations) should create your own Google account specific for this process
6. All SwitchControl settings can be changed through the PushTracker E2

Did you know?

E2 has a stronger Bluetooth connection and more durability, which means better experiences for your customers and less service calls for you.

Suggested set up for dealers

1. **Schedule delivery**
 - Contact user to download Wear OS to their phone and set up Google account
 - Schedule delivery where there is good WiFi or where you can reliably use your mobile hot spot
2. **Before delivery**
 - Update the PushTracker E2 and fully charge the battery
3. **At delivery**
 - Perform Wear OS set up with PushTracker E2 on charger
 - Remove PushTracker E2 from charger after Wear OS set up
 - Ensure PushTracker E2 is connected to WiFi
 - Download SmartDrive MCE2 app from the Google Play store
 - Pair Connect E2 to SmartDrive
 - Perform SmartDrive training
 - Instruct client to charge overnight on WiFi to make sure the E2 performs automatic updates

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Provider Set Up Guide

PushTracker E2 – Intial setup

NOTE: WiFi is required

- PushTracker E2 & Wear OS**
 - Download Wear OS on your Android or Apple phone
 - Read/accept Google terms of service & enable Bluetooth® sharing
 - Turn on watch, select language
 - Read/accept Mobvoi policy
- Pair/connect PushTracker E2 to phone
- Connect your watch to WiFi
- Choose/sign in/create Google account
- Installation
- Wear OS tutorial

NOTE: For devices or anyone ordering a PushTracker E2 to retrofit onto their existing SmartDrive MQ2+, the firmware needs to be updated to achieve full functionality. Follow the steps above, then use your PushTracker E2 to update your SmartDrive MQ2+ unit.

SmartDrive MX2+ app & pairing/connecting

NOTE: WiFi is required

- The SmartDrive MX2+ app & Pairing/Connecting**
 - Go to Google Play Store on PushTracker E2
 - Search for app
 - Search "SmartDrive MQ2+"
 - Install & launch SmartDrive MQ2+ app
- Pair & go**
 - With your SmartDrive MQ2+ unit turned on, launch the SmartDrive MQ2+ app and touch "TURN POWER ASSIST ON"
 - Pair with SmartDrive MQ2+ by selecting the number based on the screen. You can only pair when one SmartDrive MQ2+ is present
 - Wait 2-3m
 - You are now paired & connected

NOTE: You can also pair to your SmartDrive MQ2+ through the settings menu within the app.
*Wear OS by Google, iPhone, Android, Bluetooth and Google Play are trademarks or registered trademarks of their respective owners.

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Provider Set Up Guide

Battery performance tips

The PushTracker E2 has been thoroughly tested and under average usage (i.e. 2 miles distance at 3 MPH) with the SmartDrive MQ2+ it should last approximately 16 hours. As with any smart device the battery performance is highly dependent on use and a variety of other factors, especially system updates. Below are some considerations on how you can help your client get the most out of their battery.

- During initial setup**
 - Fully charge the battery prior to set up and first use
 - Check to make sure the PushTracker E2 has the most up to date operating system (perform all updates on the charger before use: Settings App > System > About > System Updates)
 - Turn off "location" setting: Settings App > Location
 - Select a dark watch theme (less bright colors) to save some battery
- Other battery performance systems:**
 - Turn off the "always-on" display: Settings App > Display > Always-on Screen
 - Turn off "always-on" & "wrist gestures": Settings App > Gestures
 - Turn off Wi-Fi when not in use (otherwise it will continuously search for networks): Settings App > Connectivity > WiFi
 - Make sure a screen brightness level 3 or less when possible: Settings App > Display > Adjust Brightness
 - Turn "OK Google" off: Personalization > OK Google Detach
 - Turn on "airplane mode": The PushTracker E2 will prompt you to reconnect Bluetooth when going to use your SmartDrive



Did you know?
Keeping the PushTracker E2 in "Turn Power Assist On" mode heavily impacts the battery life. Since launch we have added a programmable "timeout" function that automatically disconnects the E2 to improve battery performance.

Power your push, your way

In the complex rehab industry, there is no single solution that works for all wheelchair users. There's simply too much diversity in the people we work with for one solution to work well for everyone.

SmartDrive now comes with a range of controls so that you can help provide more independence to more of your customers with this game-changing technology. You, the therapist, and the client choose what's best for the client.

SwitchControl now comes standard at no charge with every SmartDrive and the original PushTracker is still available for those who need it. Order forms have been updated to reflect most recent changes.

	Low tech	Mid tech	High tech
SwitchControl only			
Original PushTracker & SwitchControl			
PushTracker E2 & SwitchControl			

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Provider Set Up Guide

SwitchControl programming options

SwitchControl (formerly known as the "thumb throttle") gives users another customizable option for controlling their SmartDrive and is included free of charge with every SmartDrive. With the push of a button SmartDrive can be engaged for a momentary burst of power or activated in latched mode for constant power over extended distances. The speed can also be programmed to the user's needs or preferences. This empowers a more diverse user population to experience SmartDrive with increased confidence and when paired with the PushTracker E2, offers added flexibility, convenience and control options.

Separate setting than PushTracker E2		
Set your speed	1-4.5mph/1.6-4.8kph	Separate setting than PushTracker E2
Set your mode	Momentary Push-to-Go	Latched Hold & Set

Mobility considerations for SwitchControl		
Propulsion Technique	Mode options	Specific functional activity
Bilateral Upper Extremity	Momentary alone	Ramp/Inclines
Bilateral Lower Extremity	Latched alone	Indoor Mobility
Hemis/Propulsion	Momentary with PushTracker E2	Crowded Spaces
Dependent	Latched with PushTracker E2	Short Distances
		Quick/Short Surface Change
		Low/No PushTracker Battery

How to install SwitchControl on the wheelchair

Attach the SwitchControl buttons are easily mounted to each side of the wheelchair frame so the client can use without removing their hands from the hand rims. Attached the button to the frame with the LED light facing up by using the velcro provided. Be sure the cables don't stick out avoiding any contact with the wheel. The cable can be pulled apart to the desired split location (preferably at the rear of the seat).

Rigid

1. Use velcro strips to strap down cables on seat
2. Place cushion over cables
3. Install metal clamp for connector when not attached to SmartDrive
4. Extra cable can be managed under seat cushion

Folding

1. Use provided tie-straps to route cable along the frame tube and out the rear of the wheelchair (traditional mounting for folding and rigid frames)
2. Be sure to leave enough slack to allow the cables to fold up with the WC
3. Cables can be left dangling out the back of chair when not in use



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YouTube Resources

https://www.youtube.com/user/PermobilCorporation/playlists?view=50&sort=dd&shelf_id=2



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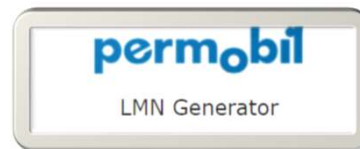
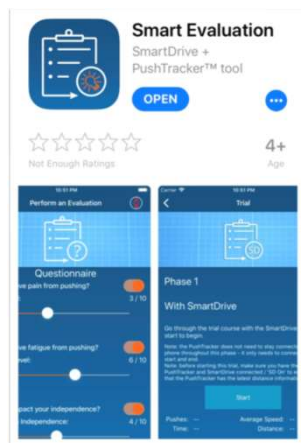
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SmartDrive Apps



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SmartEvaluation App & LMN Generator



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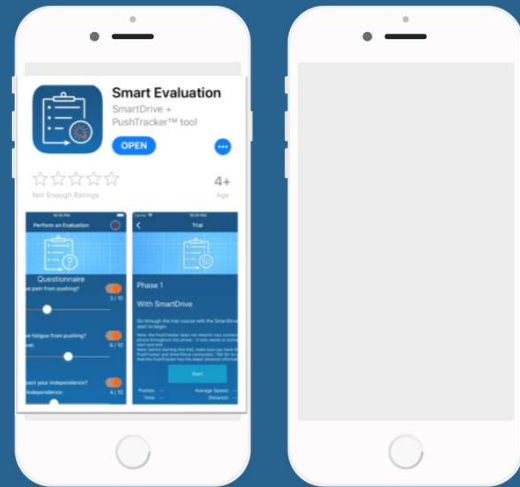
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Smart Evaluation App

Provides objective data quantifying benefit of SD over mwc w/o SD

Use PT (not E2) w/ SmartEval App

Future plans to create PT E2 compatibility for SmartEval

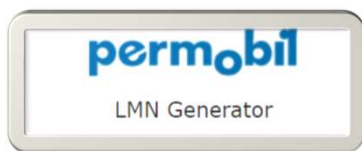


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Justification Made Easy!



permobilmn.com/2019/login

- TiLite with SmartDrive sample
- SmartDrive to be added to existing mwc

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mwc- manual wheelchair

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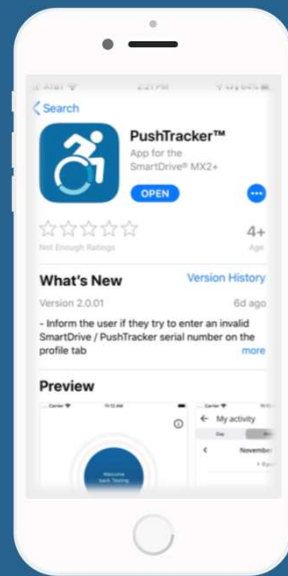
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PushTracker App

Connects PushTracker wearable
with smartphone app

Programming

Usage & activity monitoring



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PushTracker E2 – Updates

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SmartDrive MX2+ App Updates

- Power Assist Time Out function
- New Permobil SD MX2+ watch face
- Bug fixes for wireless updates, charts, & time zones



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SmartDrive MX2+ App Updates

- "Turn Power Assist Off"
- Continuous Scrolling
- Tap detection improvements



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PushTracker E2 – Unique Features & Considerations



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Touch screen technology makes the PushTracker more accessible than ever

8x more reliable Bluetooth® connection

PushTracker E2

Developed with connectivity in mind, the PushTracker E2 has been rigorously tested and proven to be consistently reliable and extremely durable. The PushTracker E2 makes using your SmartDrive easier than ever. With gesture-activated controls and activity-tracking technology you can start your SmartDrive with a simple tap of your hand—no pushing or reaching necessary.

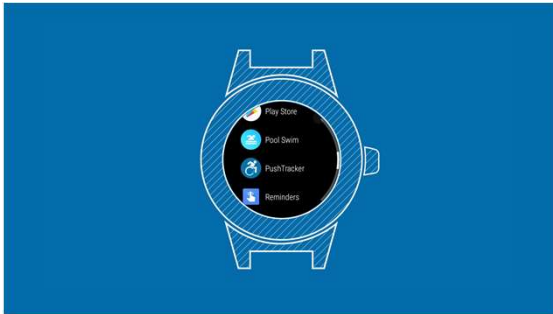
Quickly change performance profile modes

Enable start and stop

Review custom usage

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PushTracker E2 – Unique Features & Considerations



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App Shortcuts & Elements

- Quick access to what is important
- Quick visibility to what matters

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PushTracker E2 – Unique Features & Considerations



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App Shortcuts & Elements

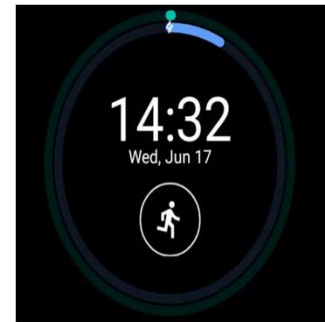
- Quick access to what is important
- Quick visibility to what matters

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PushTracker E2 – Unique Features & Considerations

SmartDrive MX2+ Watch Face

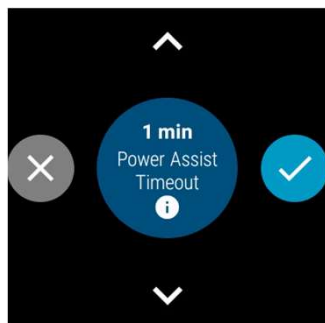
- Quick access to the MX2+ app
- Clean, simple look
- Set through the E2 or the Wear OS app



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PushTracker E2 – Unique Features & Considerations



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"i" is for Information

- Available in each setting
- Located under the setting title
- Provides quick and easy reference

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PushTracker E2 – Unique Features & Considerations



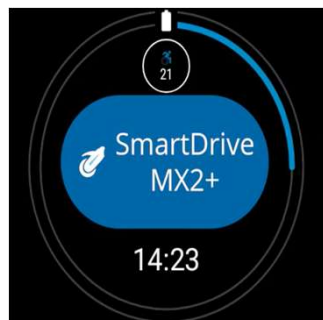
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Always stay up to date

- SmartDrive updates (wireless updates) ←
- Google Play Store updates
- System updates

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PushTracker E2 – Unique Features & Considerations



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Always stay up to date

- SmartDrive updates (wireless updates)
- Google Play Store updates ←
- System updates

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PushTracker E2 – Unique Features & Considerations



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Always stay up to date

- SmartDrive updates (wireless updates)
- Google Play Store updates
- System updates ←

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PushTracker E2 – Unique Features & Considerations

SwitchControl – Modes & Speeds

- Change settings with PushTracker E2
- Momentary or latched modes
- Program speed separate than E2



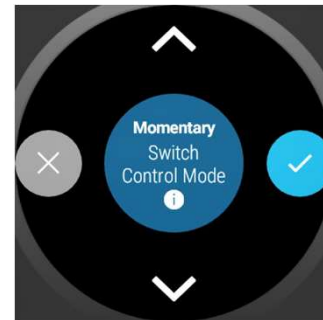
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PushTracker E2 – Unique Features & Considerations

SwitchControl – Modes & Speeds

- Change settings with PushTracker E2
- Momentary or latched modes
- Program speed separate than E2



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PushTracker E2 – Unique Features & Considerations

Check for Wrist

- Sensor enabled for safety function
- Size and muscle mass may vary
- Change in settings



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PushTracker E2 – Unique Features & Considerations



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Power Assist Time Out

- Automatic disconnect with inactivity
- Programmable, 1-10 minutes; default 5 minutes
- Improves battery performance, helps avoid inadvertent taps

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PushTracker E2 – Unique Features & Considerations



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Date and Time in MX2+ App

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PushTracker E2 – Unique Features & Considerations



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Wear OS Battery Tracker

- Quick access to what is important
- Quick visibility to what matters

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PushTracker E2 – Unique Features & Considerations



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Other useful applications

- Heart rate monitoring
- Hand wash timer & reminder

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Live Q&A

- special guest Brandon Oney

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SmartDrive Facebook Group

- Search "SmartDrive Wheelchair Power Assist"
- Specific address
<https://www.facebook.com/groups/236424793151630>
- 1.9k members!
- Great advice & discussion

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SmartDrive Summary

- Proactive instead of reactive
- Intentionally designed with the Omni wheel, ergonomic handle
- Lightweight
- Multiple ways to use for varied populations
- Enables evidence-based practice
- Supported by research

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Thank you



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Upcoming Virtual Learning

Permobil Custom Seating and
Positioning Solutions
July 8th @12:00 PM EST



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Thank you



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