

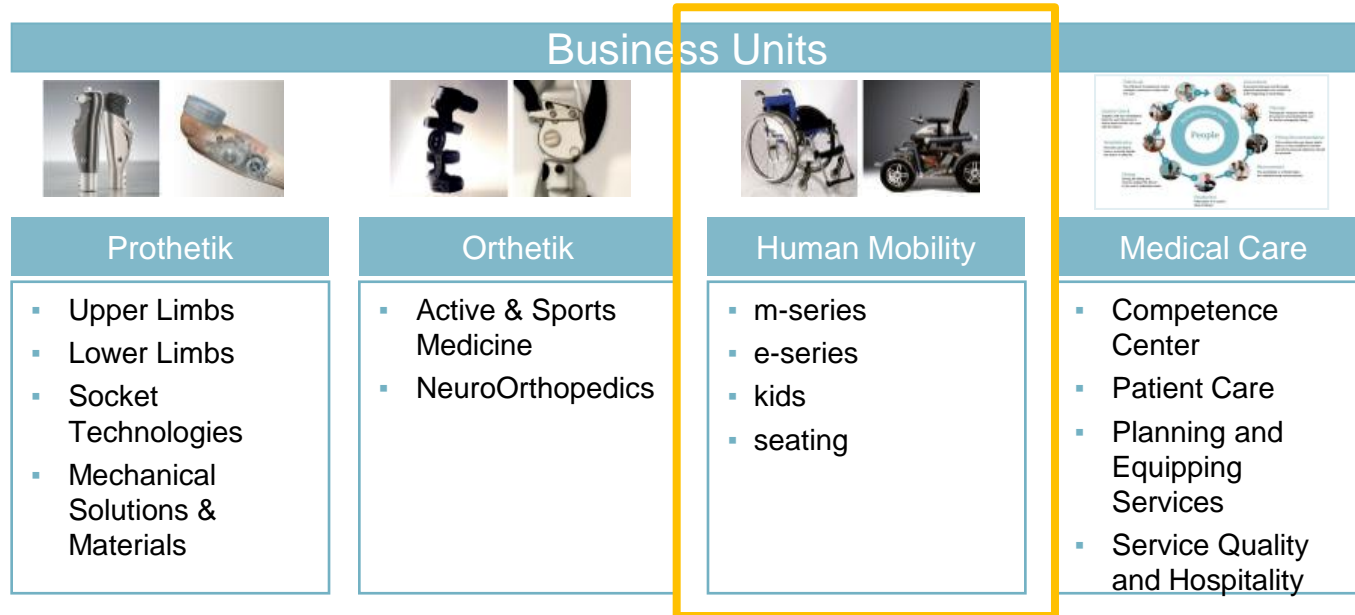
**ottobock.**

# Otto Bock Mobility Company presentation



Quality for life

# Business Units





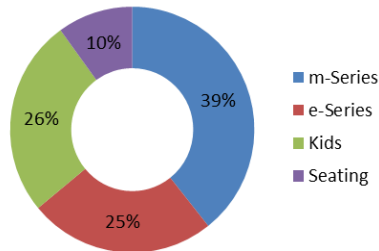
# Key figures BU

## Human Mobility

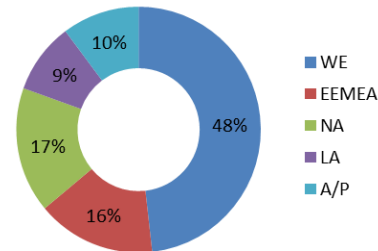
### Employees Business Unit (world wide)

2012	792
2013	824
2014	880
2016	900

### Sales by product group in 2015



### Sales by regions in 2015



# Ottobock Königsee – 1992 Start of production



# Production



To secure our core brand value...

**ottobock.**

## Quality for Life

### Bsp. Two drum Test - Crash Test



OB Mobility is a “full solution supplier” for manual and powered wheelchairs for kids and adults



# Business Unit Human Mobility

	m-series	e-series	Seating & Positioning	Accessories	MedicalCare
Active/ Sports					
Complex rehab					
Kids					
Commercial customers					

# Success factor Innovation and Technology

Aktiv-Rollstuhl  
Falcon Traveller  
und Superlight



Aktiv-Rollstuhl  
Avantgarde

Aktiv-Rollstuhl  
Switch Attack

Kinder-Aktiv-Rollstuhl  
Teeny



Zusatzantriebe  
E-Clips,  
E-Support



neue E-Rollstuhl  
Baureihe  
B500/B600



Para-  
golfer



Motus

Neue E-Rollstuhl-Steuerungen  
Enable 40/50

1992

1993

1994

1995

1996

1997

1998

1999

2000

2002

2003

2004

2005

2006

2008

2009

Sport-Rollstuhl  
Volley,  
Comet

Leichtgewicht-Rollstuhl  
Start



Elektro-Rollstühle  
Evantgarde  
und A-100

superleichter  
Aktivrollstuhl  
Avantgarde Ti



Elektro-Rollstühle  
C 1000, ,



SuperFour

Steh-Rollstuhl  
Xeno





**ottobock.**

Keep on Rollin!  
[www.ottobock.com](http://www.ottobock.com)



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# Electrical wheelchairs

Ottobock

Jelle Van Durm, Mobility Solutions



Quality for life

# Products General

A-200



B-400



B-500 classic/advanced



B600-enAble50



Juvo



Skippi+



C1000-DS



C1000-SF



C-2000



# Products

## A200



**Name** A200  
**Category** Indoor

**Speed** 6,0 km/h

**Range** 20 km

**Width** 58 cm

**Length** 100 cm

**Max. user weight** 100 kg



# Products

## B400



**Name** B400  
**Category** Indoor

**Speed** 7,2 (10,0\*) km/h

**Range** 35 km

**Width** 59 cm

**Length** 106 cm

**Max. user weight** 140 kg



# Products

## JUVO B5



**Name** B5  
**Category** Indoor / Outdoor

**Speed** 10,0 km/h

**Range** 45 km

**Width** 60/64 cm

**Length** 105 cm

**Max. user weight** 140/160 kg

**Special controls**



# Products

## JUVO B6



**Name** B6  
**Category** Outdoor / Indoor

**Speed** 14,0 km/h

**Range** 40 km

**Width** 60/64 cm

**Length** 105 cm

**Max. user weight** 140/160 kg

**Special controls**



# Products

## C1000-DS



**Name** C1000-DS  
**Category** Outdoor

**Speed** 10,0 (14,0\*) km/h

**Range** 50 km

**Width** 65 cm

**Length** 108 cm

**Max. user weight** 140 (200\*) kg

**Special controls**





# Products

## C1000-SF



**Name** C1000-SF  
**Category** Indoor / Outdoor

**Speed** 10,0 km/h

**Range** 35 km

**Width** 65 cm

**Max. user weight** 136 kg

**Special controls**



# Products

## C1000-SF



# Products

## C2000



<b>Name</b>	C2000
<b>Category</b>	Outdoor
<b>Speed</b>	10,0 km/h
<b>Range</b>	50 km
<b>Width</b>	68 cm
<b>Length</b>	122 cm
<b>Max. user weight</b>	160 (260*) kg
<b>Special controls</b>	<input checked="" type="checkbox"/>

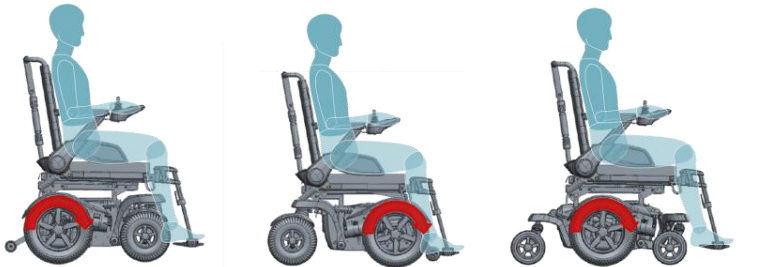


**ottobock.**

# Drive Concepts

## Ottobock

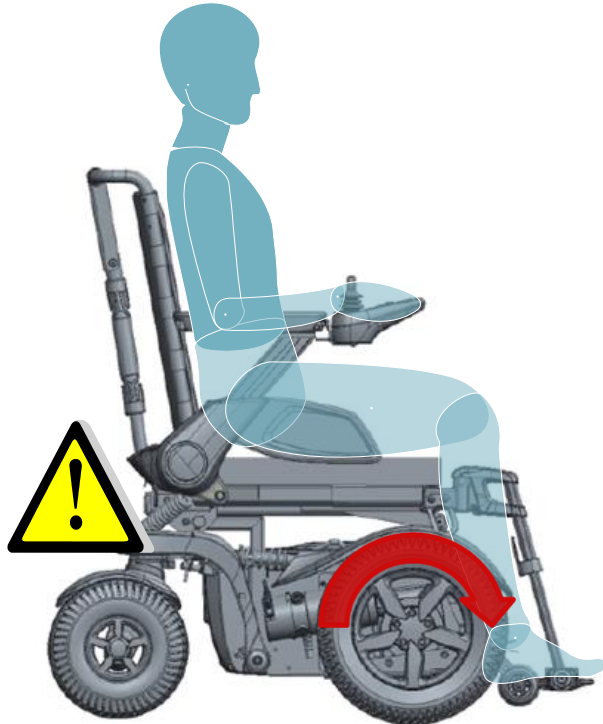
Academy, Mobility Solutions



Quality for life

# Drive concepts

## Front-wheel drive



### Pros:

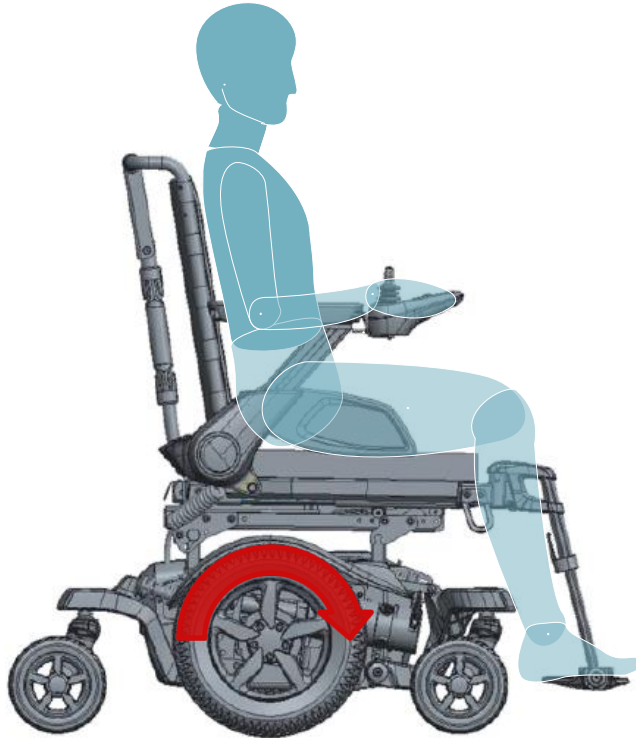
- Obstacles can be overcome easily
- High manoeuvrability
- A lot of space in the footrest area
- A lot of space for additional devices (respiration platform) within the wheelchair dimensions

### Cons:

- Wheelchair swings at the rear, out of the perceived area
- Limited traction uphill
- Increased risk of tilting when driving downhill

# Drive concepts

## Mid-wheel drive



### Pros:

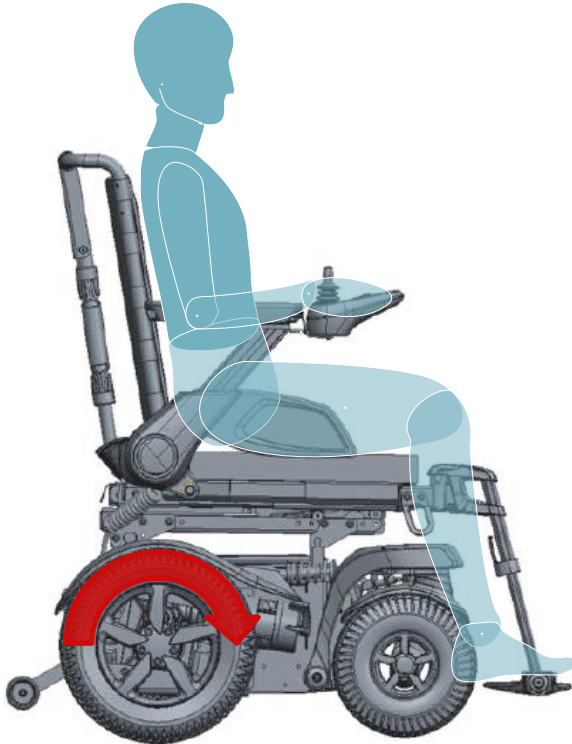
- Wheelchair swings/rotates around its own body axis, barely blind spots and therefore suitable for patients with limited cognitive abilities
- Very quick familiarization when switching from electric to manual wheelchair - „intuitive“ driving

### Cons:

- Limited overcoming of obstacles
- Limited driving abilities on ramps and tendency to „bend“
- Requires more space than a wheelchair with front-wheel drive

# Drive concepts

## Rear-wheel drive



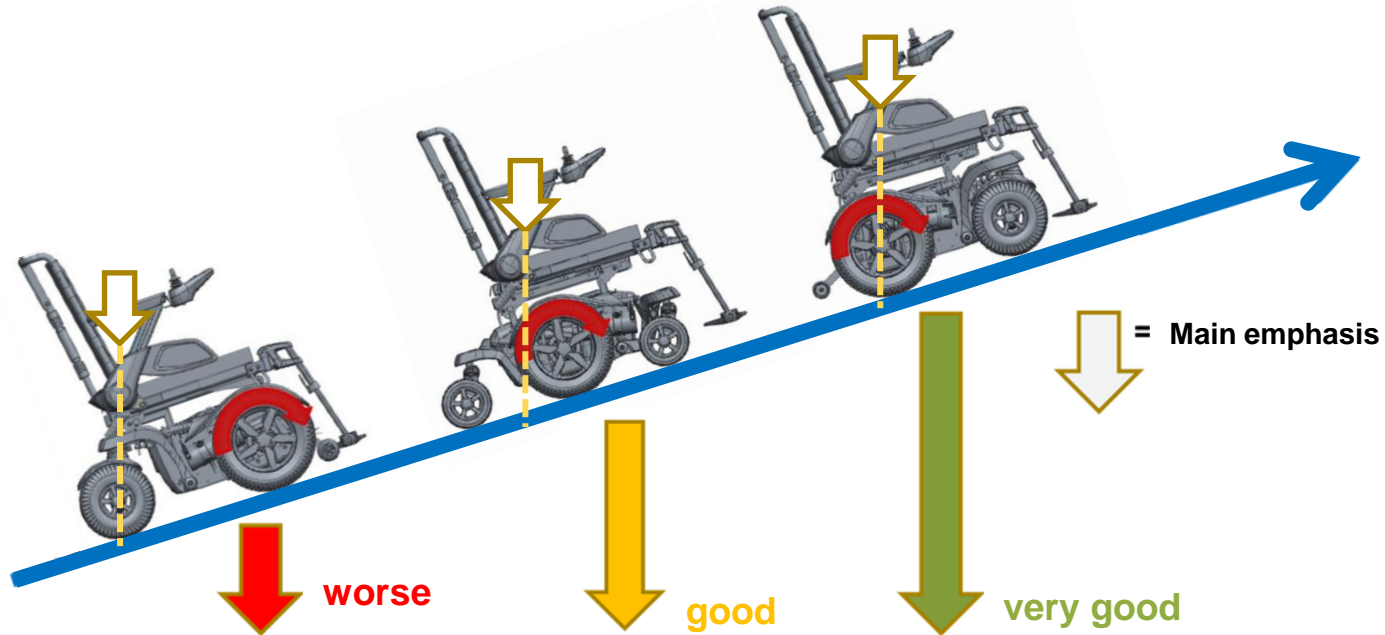
### Pros:

- Wheelchair swings/rotates around its own body axis, barely blind spots and therefore suitable for patients with limited cognitive abilities
- Very good traction uphill
- Very quick familiarization when changing from a manual wheelchair to an electric wheelchair

### Cons:

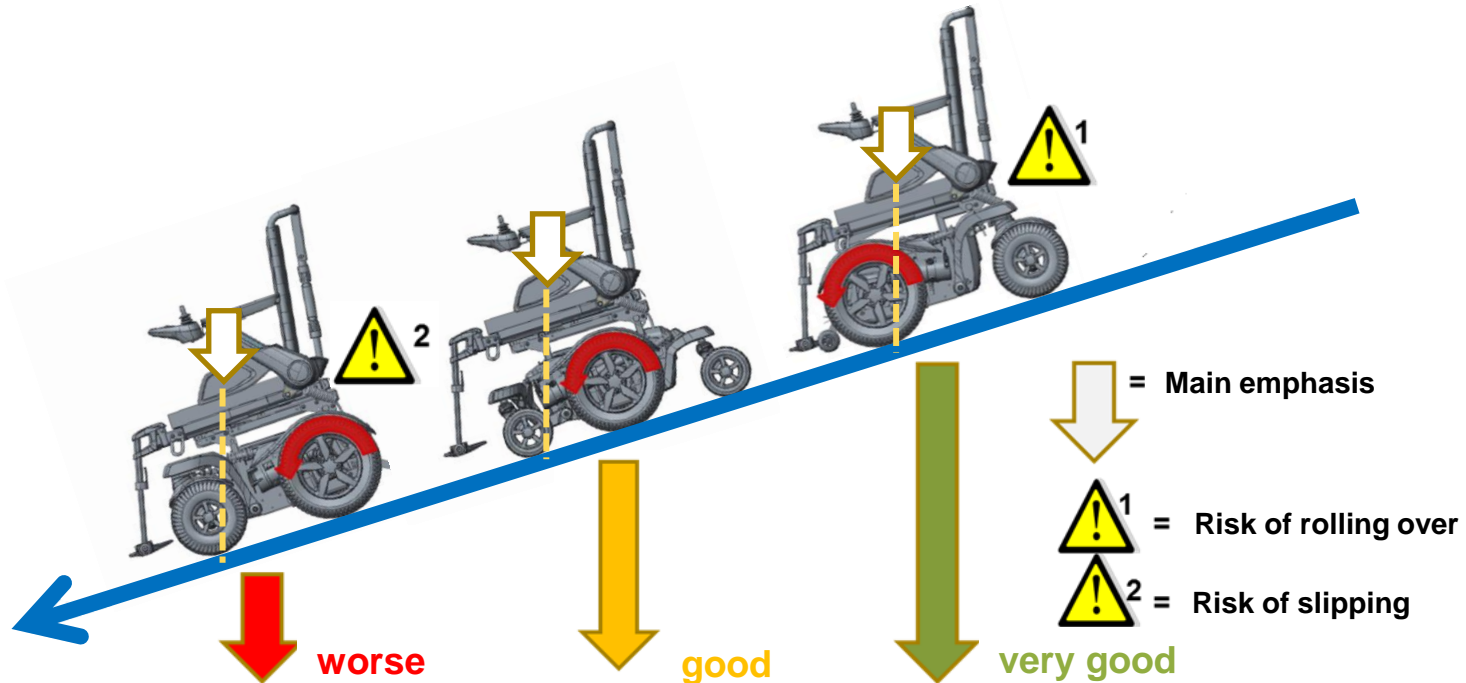
- Trail-steering causes limited space within the footrest area
- Limited overcoming of obstacles caused by small steering wheels

# Drive concepts Comparison – traction (uphill)



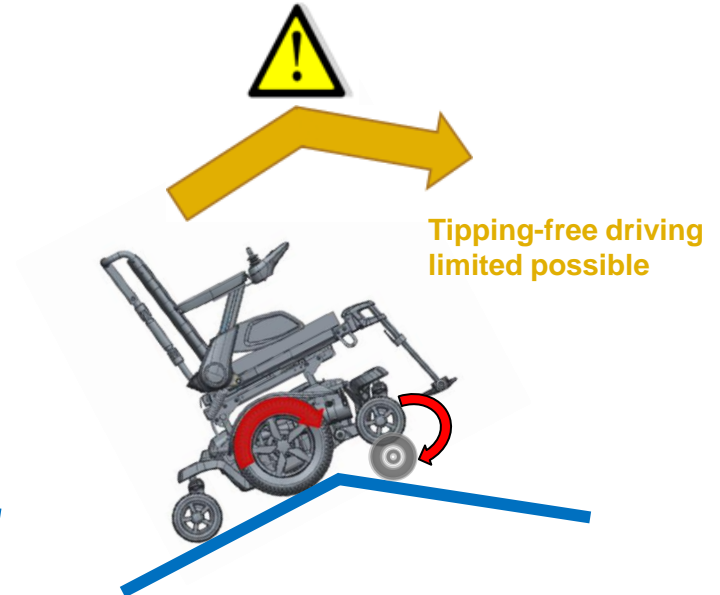


# Drive concepts Comparison – traction (downhill)



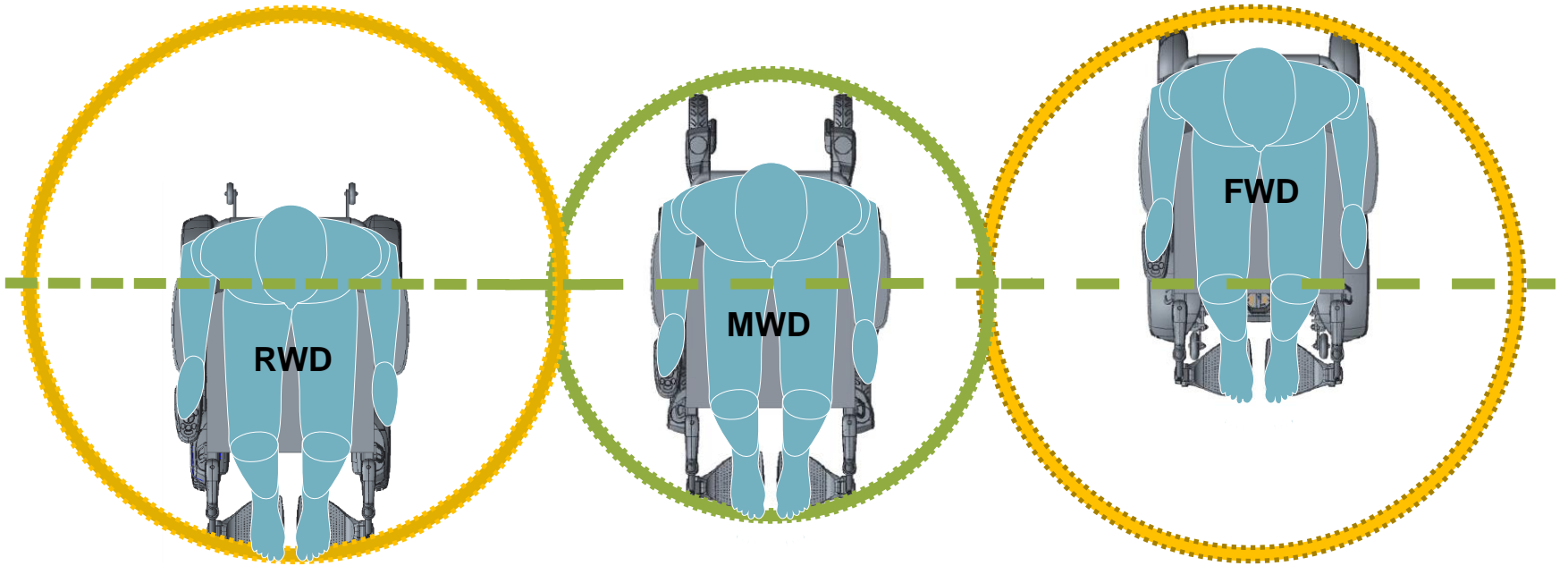
# Drive concepts

## Comparison – ramp/obstacle



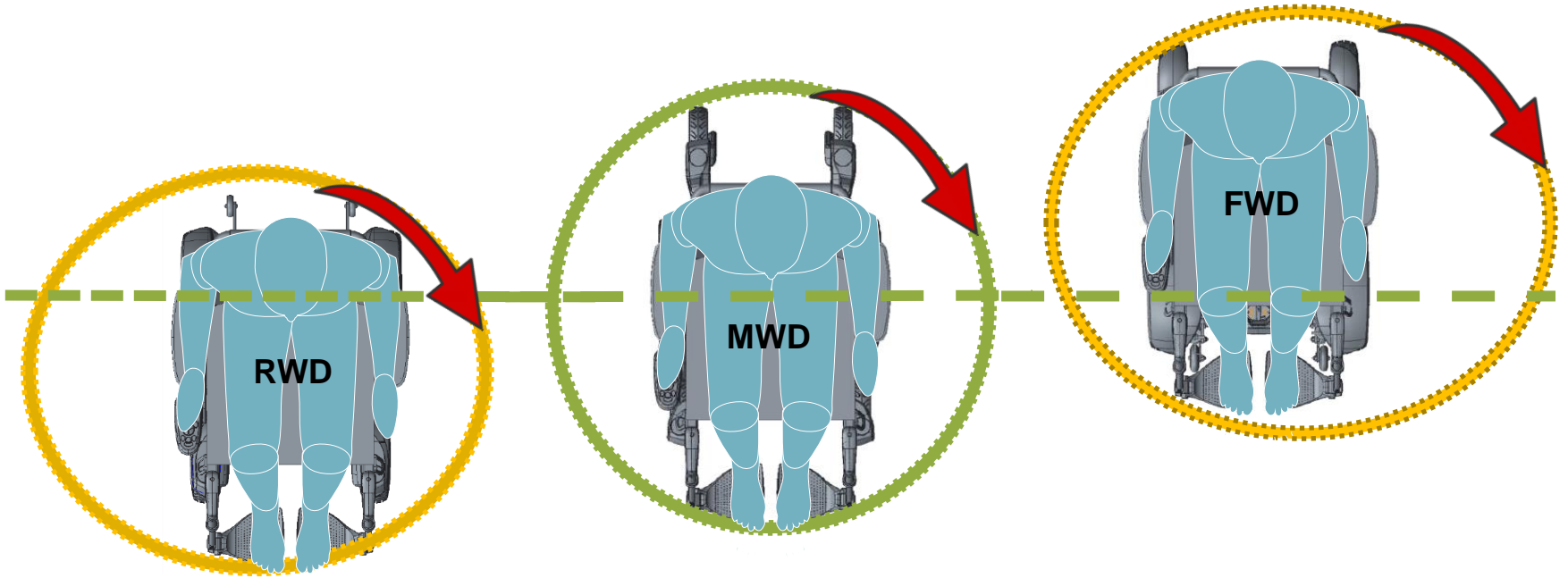
# Drive concepts

## Comparison – space requirement 360° turn



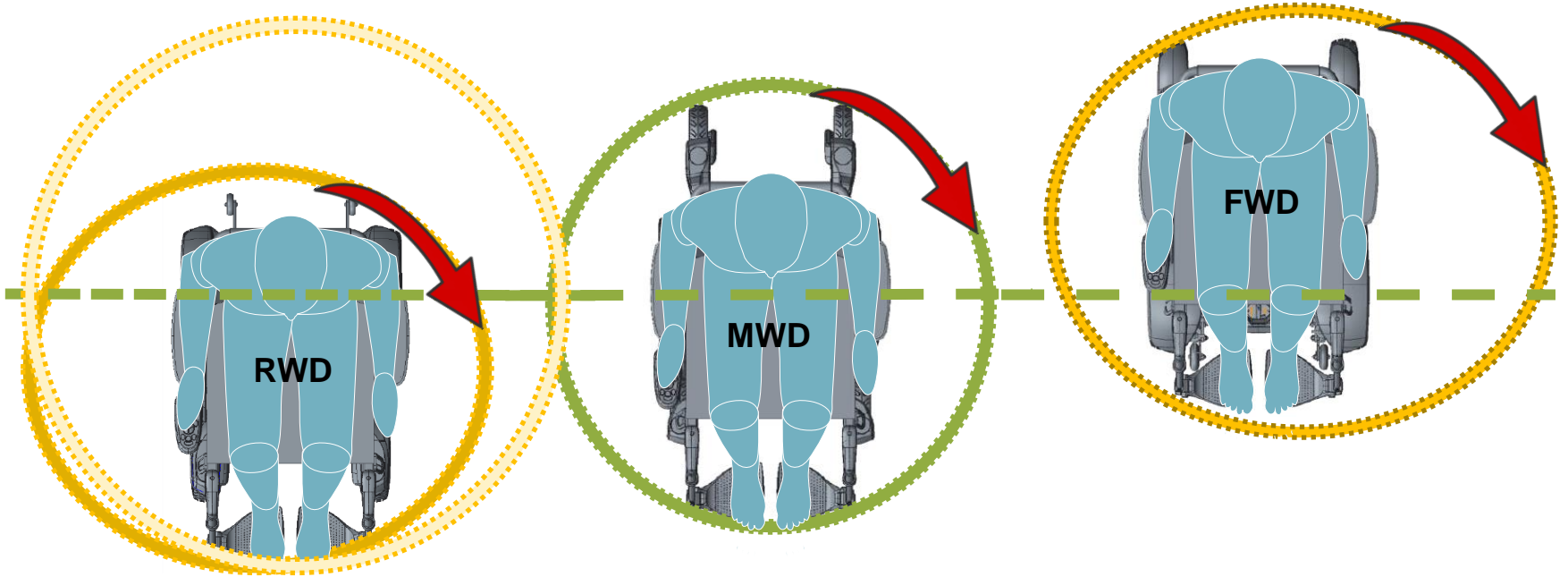
# Drive concepts

## Comparison – space requirement 90° turn



# Drive concepts

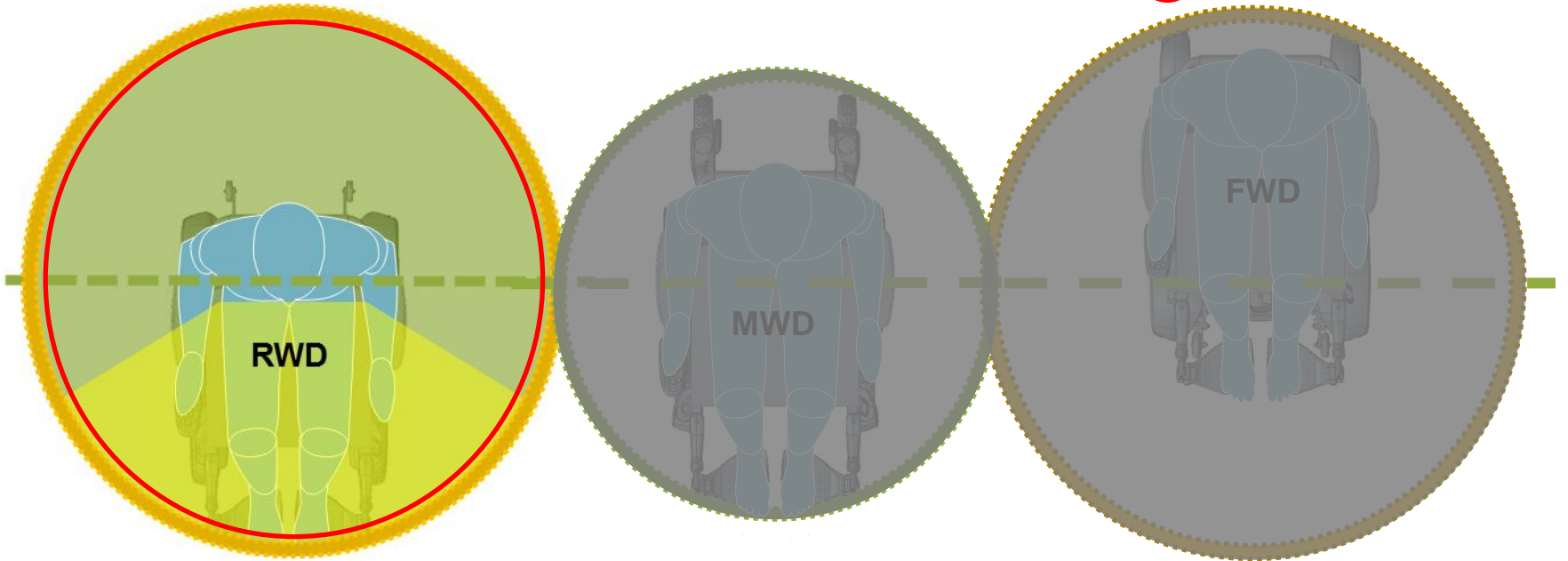
## Comparison – space requirement 90° turn



# Drive concepts

## Comparison – space requirement

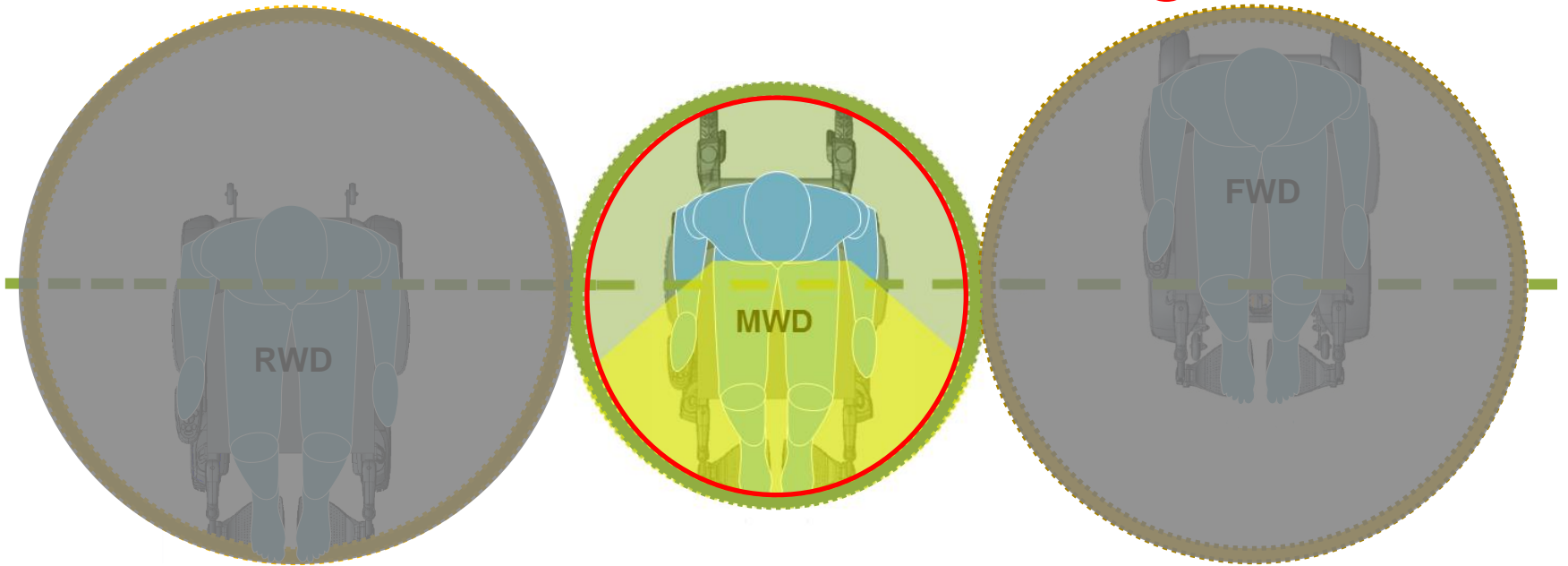
- Viewing area
- Swivel area
- Perceived swivel range



# Drive concepts

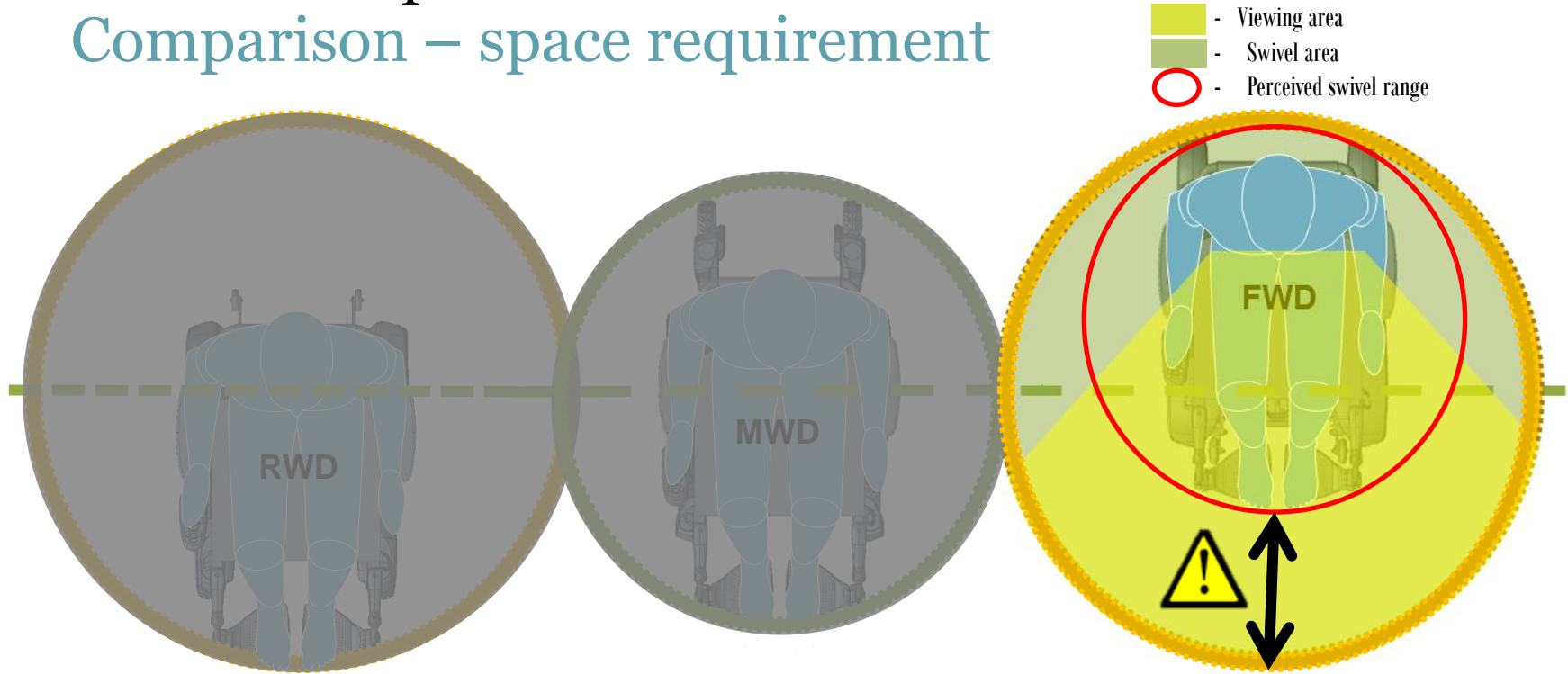
## Comparison – space requirement

- Viewing area
- Swivel area
- Perceived swivel range



# Drive concepts

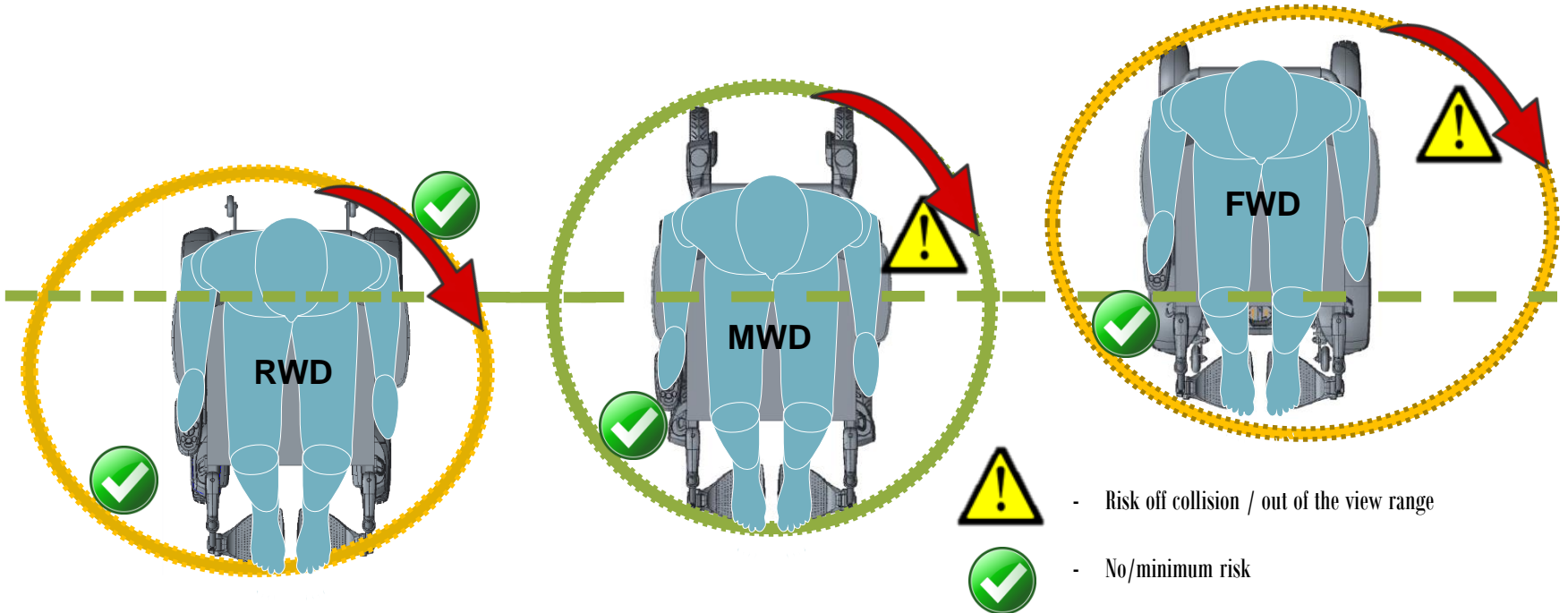
## Comparison – space requirement





# Drive concepts

## Comparison – space requirement 90° turn



# Discover what moves us!

Academy

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



Quality for life

# Joystick controls Ottobock

Jelle Van Durm, Mobility Solutions

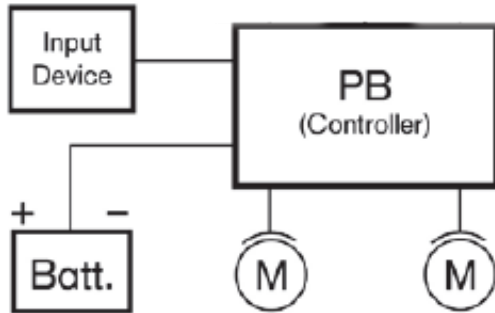


**ottobock.**



# Joystick controls

## How does it work?



# Joystick controls

## Different handcontrols



VR2

EnAble50

TEN°

# Joystick controls

## P&G – VR2



- Speed control
- Actuator control ( 2 max )
- Light control
- Horn

Speed Settings		Profile	1	2	3	4	5
?	Acceleration		↕	↕	↕	↕	↕
?	Deceleration		↕	↕	↕	↕	↕
?	Turn Acceleration		↕	↕	↕	↕	↕
?	Turn Deceleration		↕	↕	↕	↕	↕
		<b>Max</b>	<b>Min</b>	<b>Max</b>	<b>Min</b>	<b>Max</b>	<b>Min</b>
?	Forward Speed (%)	↕	↕	↕	↕	↕	↕
?	Reverse Speed (%)	↕	↕	↕	↕	↕	↕
?	Turning Speed (%)	↕	↕	↕	↕	↕	↕
?	Power (%)	↕	↕	↕	↕	↕	↕
?	Number of Drive Profiles	↕					
?	Minimum Acceleration (%)	↕					
?	Minimum Deceleration (%)	↕					
?	Minimum Turn Acceleration (%)	↕					

# Joystick controls

## Curtis – EnAble50



- Speed control
- Actuator control
- Light control
- Horn
- Joystick adjustment possible

Drive					
	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5
Fwd Speed	20 %	40 %	60 %	80 %	100 %
Rev Speed	15 %	30 %	30 %	30 %	35 %
Turn Speed	20 %	20 %	25 %	30 %	35 %
Speed Turn Rate	10 %	15 %	20 %	25 %	30 %
Fwd Accel	15 %	25 %	30 %	35 %	40 %
Fwd Decel	10 %	20 %	30 %	40 %	60 %
Rev Accel	10 %	20 %	30 %	40 %	50 %
Rev Decel	30 %	40 %	50 %	60 %	70 %
Turn Accel	5 %	5 %	5 %	5 %	5 %
Turn Decel	5 %	10 %	10 %	10 %	15 %
Latch Forward	Off	Off	Off	Off	Off
Latch Reverse	Off	Off	Off	Off	Off
Power	100 %	100 %	100 %	100 %	100 %
Servo Behavior	90°	90°	90°	90°	90°

### Parameter Editor

Name: Value: Unit:

- Input Devices
- System Settings
- Configuration
  - Save System Configuration
  - Actuator Configuration
  - Seat
  - ALX Channel Assignment
  - Mapped LED

### Actuator Configuration

Please create for each needed function a new entry in the table.  
Create restrictions entries on the "End Switches" tab. Detailed description to the limit thresholds

Function Assignment	End Switches				
Display Order	Name	Type	Assigned to	Holdin	Latched
2	Tilt	Basic	A1	<input type="checkbox"/>	<input type="checkbox"/>
2	Recline	Basic	A2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Seatheight	Basic	A3	<input type="checkbox"/>	<input type="checkbox"/>
4	Legrest Right	Basic	A3	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Legrests	Combined	Special Function 2, Legrest Right	<input type="checkbox"/>	<input type="checkbox"/>
6	Special Function 1	Combined	Special Function 2, Legrest Right, Recline	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	Special Function 2	Basic	A4	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	Legrest Left	Basic	A4	<input type="checkbox"/>	<input type="checkbox"/>

Add New... Edit... Delete Move Up Move Down

Save Help



# Joystick controls

## P&G – Ottobock TEN°



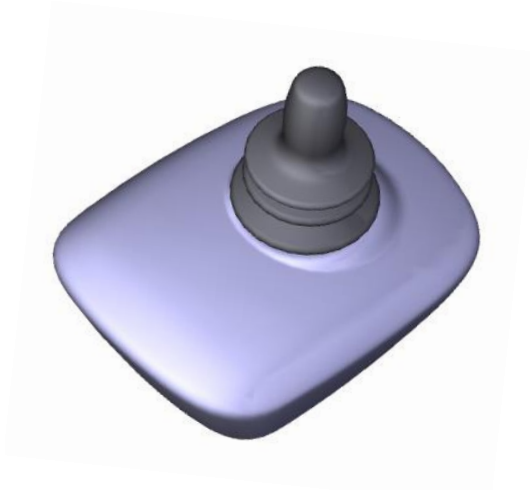
# Joystick controls

## P&G – Ottobock TEN°



# Joystick controls

## P&G – Ottobock TEN°



- Soft hand support pad - More comfortable and secure

# Joystick controls

## P&G – Ottobock TEN°



- TEN° innovative jog wheel
- Ergonomic 10° control

# Joystick controls

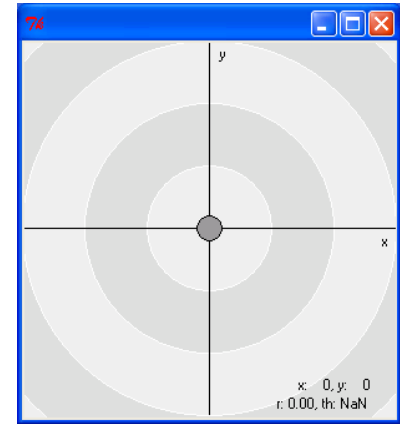
## “Proportional joystick”

For every joystick movement, there is a corresponding x/y value.

This value will create a drive command.

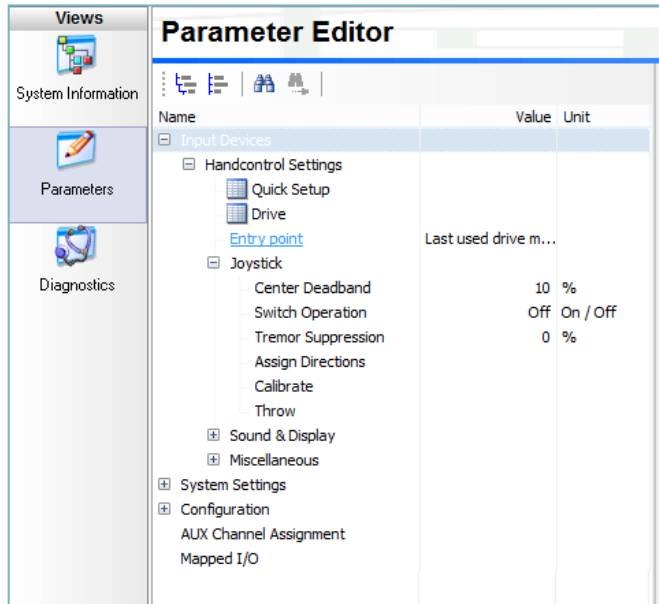
### Example:

x:0, y:100 will respond in a straight forward drive command.



# Joystick controls

## Joystick adjustment

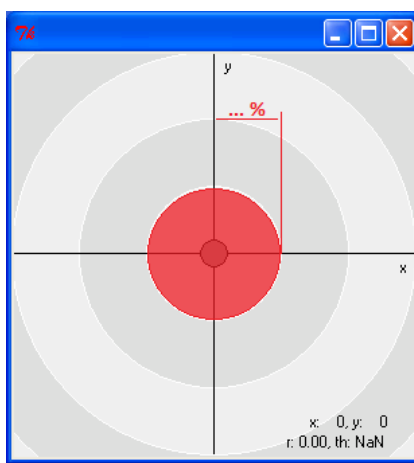


- Center Deadband
- Switch operation
- Tremor Suppression
- Assign Directions
- Calibrate
- Throw

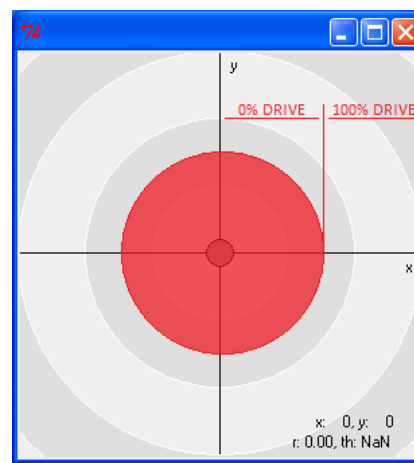
# Joystick controls

## Joystick adjustment

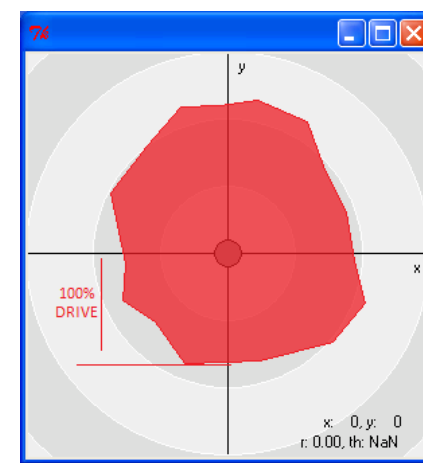
Center Deadband



Switch Operation



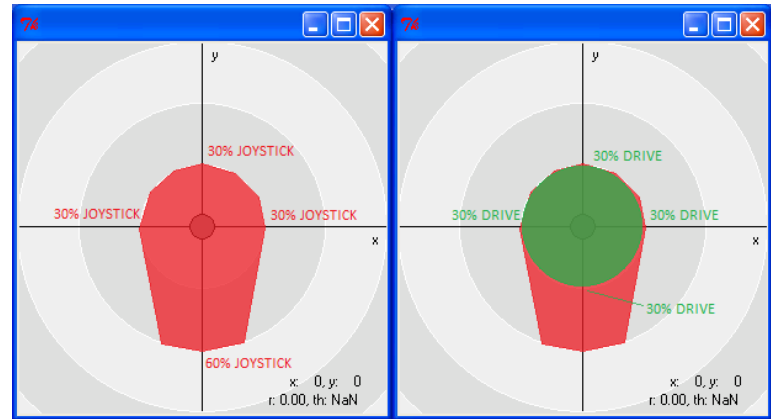
Calibrate



# Joystick controls

## Joystick adjustment

### Throw





# Joystick controls

## Attendant control

- Speed control
- Actuator control
- Joystick adjustment possible



# Special controls

## Ottobock

Jelle Van Durm, Mobility Solutions



Quality for life



**ottobock.**



**ottobock.**





# Special controls

## Different display possibilities



R-NET - OMNI

CURTIS – Enable50



R-NET - TEN°

# Special controls

## Proportional joystick

Powered by Mo-Vis

Force between 8,5 gr – 650 gr



Micro Joystick



Multi Joystick

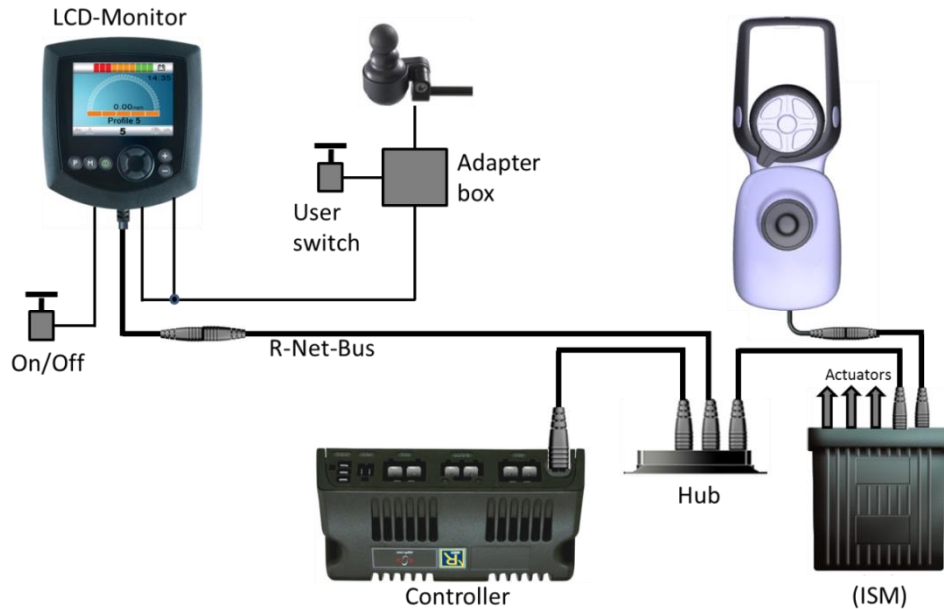


All-round Joystick



# Special controls

## Proportional joystick + OMNI





# Special controls

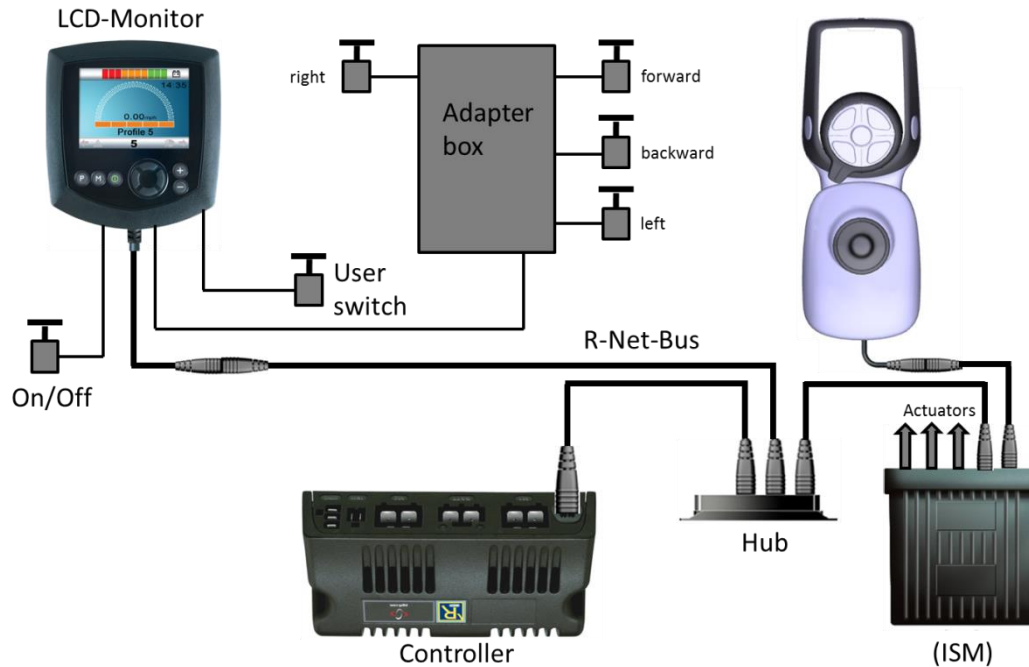
## Buttons & switches



- 1 to 4 switches
- Different mounting possibilities
- OMNI/EnAble50 necessary

# Special controls

## Button setup + OMNI



# Special controls

## Different display possibilities



R-NET - OMNI



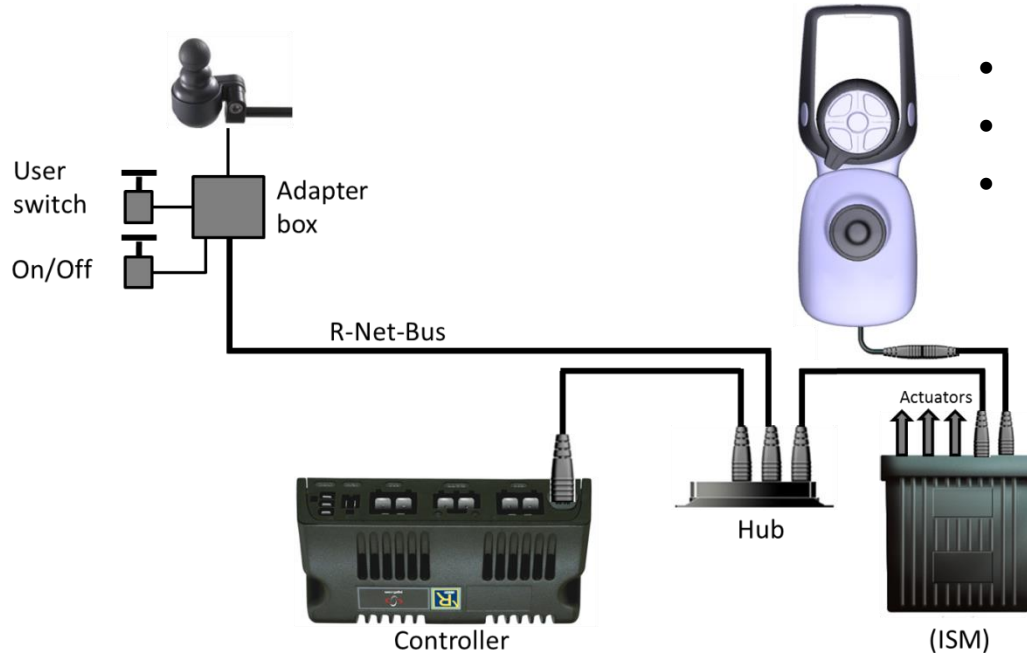
CURTIS – Enable50



R-NET - TEN°

# Special controls

## Stand-alone



- Perfect combination for indoor use
- Micro-joystick to heavy-duty
- Wheelchair functions limited



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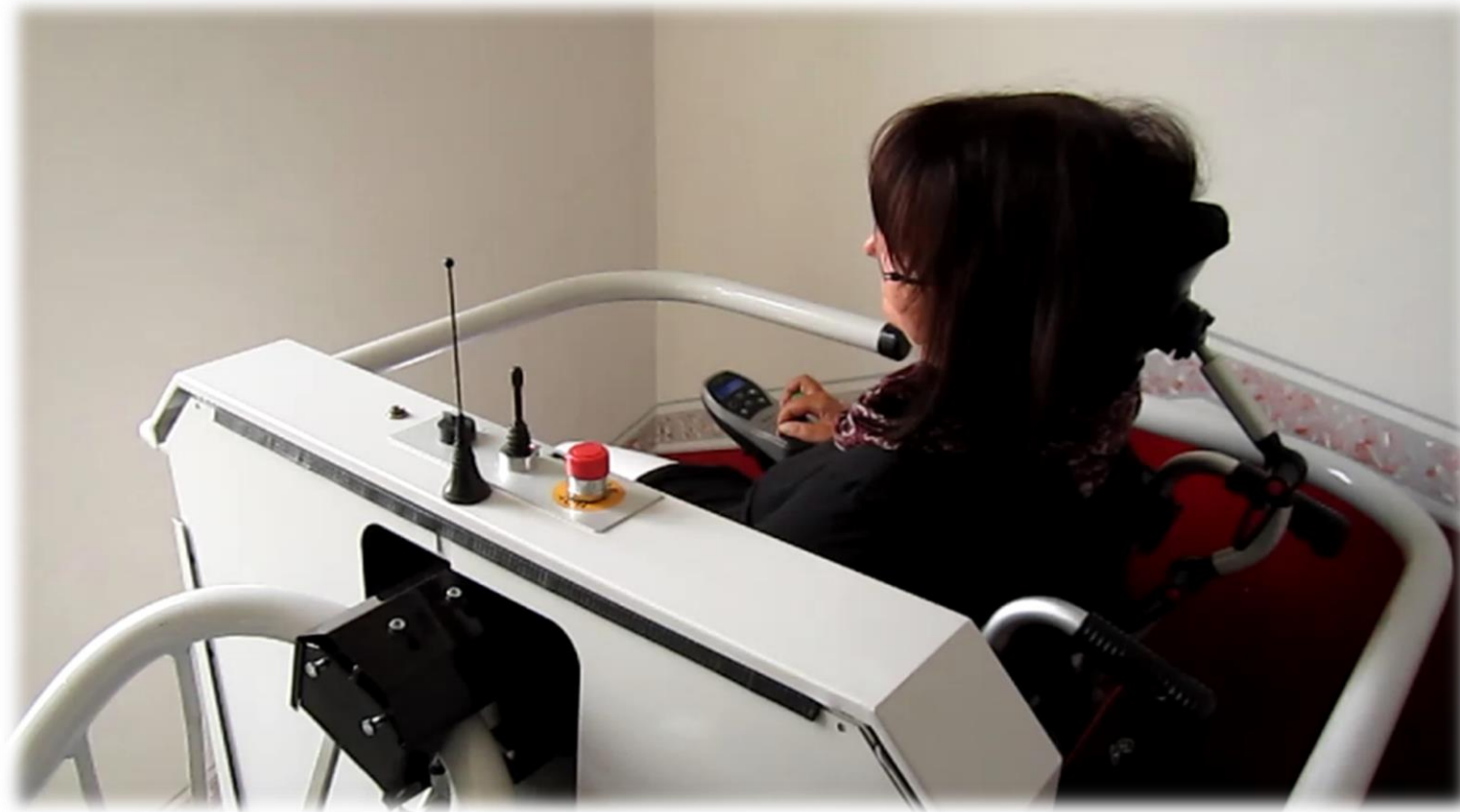
Quality for life

# Environmental Control Ottobock

Jelle Van Durm, Mobility Solutions

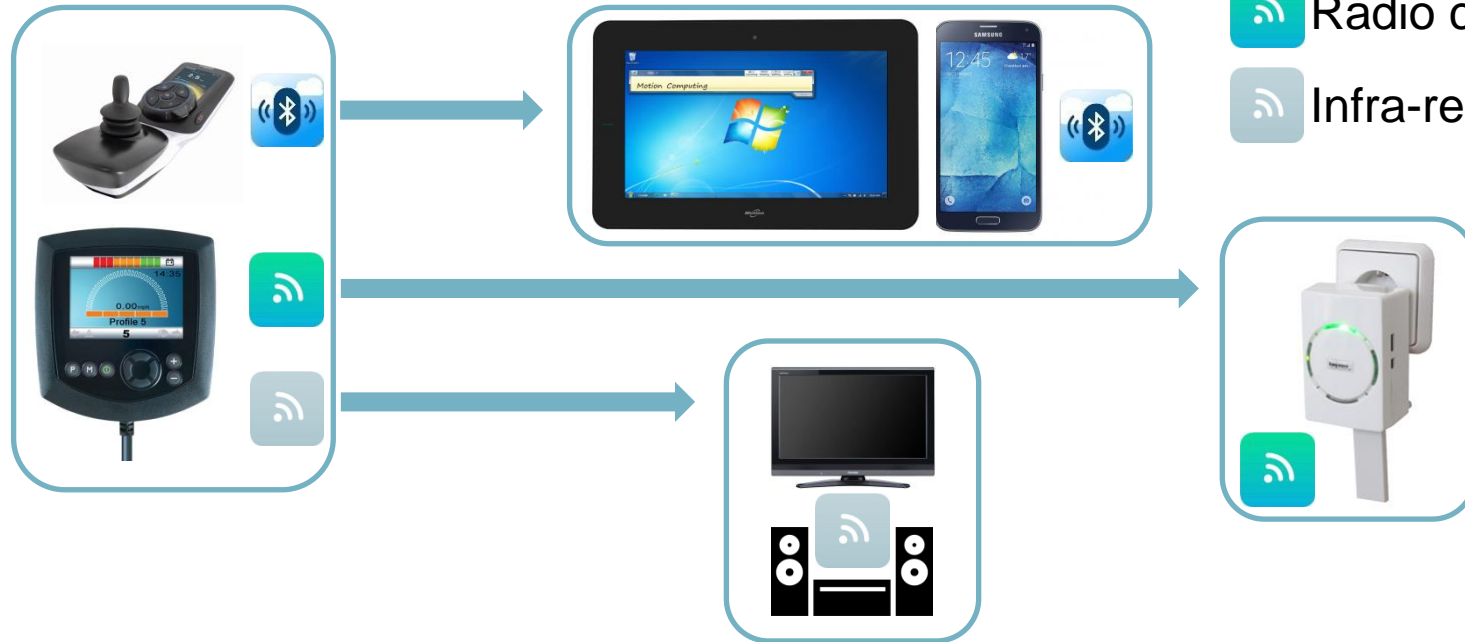





Quality for life



# Environmental control

## How does it work?



-  Bluetooth
-  Radio control
-  Infra-red



# Environmental control

## R-NET – TEN°

- Speed control
- Actuator control
- Light control
- Horn
- Bluetooth Mouse (4x)
- Infra-red

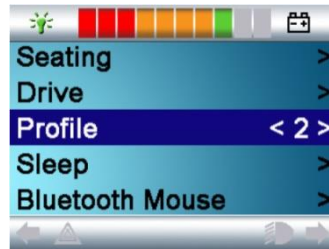


# Environmental control

## R-NET - OMNI



- Speed control
- Actuator control
- Light control
- Horn
- Bluetooth Mouse (1x)
- Infra-red



# Environmental control

## CURTIS – EnAble50



- Speed control
- Actuator control
- Light control
- Horn
- Bluetooth Mouse (1x)
- Infra-red



# JUVO

## Orderform

Jelle Van Durm, Mobility Solutions



Quality for life

# JUVO B5

## Basic

**Basis prijs: 6333,24 €**

Geldig vanaf 01-01-2017

Alle prijzen in €, inclusief BTW

Eventuele prijswijzigingen voorbehouden

Order nr.:

-----

## Juvo B5

### Elektrische rolstoel

EA002 Binnen/Buiten

**Artikel nummer: 490E75=0\_AH01\_C**

#### Standaard uitrusting

- Ottobock TEN° control, R-NET, P&G
- Aandrijving 10km/u
- 63Ah (C5) AGM batterijen
- Batterij lader
- Verlichting en richtingaanwijzers
- 9"/10" zwenkwielen, geveerd
- 14" aandrijfwielen, geveerd
- Wegzwenkbare stuurkasthouder
- Veiligheidsgordel
- Spatborden op aandrijfwielen
- IR-controle en Bluetooth
- Standaard ziteenheid

# JUVO B5

## Accessories

Aansluiting voor externe voeding, rechts			
ET 002	<input type="checkbox"/>	12V	350
ET 003	<input type="checkbox"/>	24V	130
ET 004	<input type="checkbox"/>	USB	150
Aansluiting voor externe voeding, links			
ET 005	<input type="checkbox"/>	12V	350
ET 006	<input type="checkbox"/>	24V	130
ET 007	<input type="checkbox"/>	USB	150
Frame accessoires			
EA010	<input type="checkbox"/>	Spatborden voor aandrijfwielen niet mogelijk met de combinatie RWD, VAS en ZH 43cm	
EA011	<input type="checkbox"/>	Spatborden voor zwenkwielen	
			70

# JUVO B6

## Basic

<p><b>Basis prijs: 7350 €</b></p> <p>Geldig vanaf 01-01-2017          Alle prijzen in €, inclusief BTW          Eventuele prijswijzigingen voorbehouden</p>	<p>Order nr.:</p> <p>-----</p>
---	--------------------------------

# Juvo B6

## Elektrische rolstoel

EA002 Binnen/Buiten

**Artikel nummer: 490E75=0\_AH02\_C**

Snelheid		
ET 014	<input type="checkbox"/>	14 km/u
Frame accessoires		
EA010	<input type="checkbox"/>	Spatborden voor aandrijfwielen niet mogelijk met de combinatie RWD, VAS en ZH 43cm -
EA011	<input type="checkbox"/>	Spatborden voor zwenkwielen -
Aansluiting voor externe voeding, links		
ET 005	<input type="checkbox"/>	12V 250
ET 006	<input type="checkbox"/>	24V -
ET 007	<input type="checkbox"/>	USB -

# JUVO

## Seat unit

Zit systemen				
EC 001	<input type="checkbox"/>	<b>Standaard zit, Junior</b>	ZB 34-40 cm; ZD 34-40 cm; RH 47-37 cm instelbaar in stappen van 5 cm	145
EC 002	<input type="checkbox"/>	<b>Standaard zit, Small</b>	ZB 38-42 cm; ZD 38-46 cm; RH 55-45 cm instelbaar in stappen van 5 cm	-
EC 003	<input type="checkbox"/>	<b>Standaard zit, Large</b>	ZB 44-48 cm; ZD 42-50 cm; RH 55-45 cm instelbaar in stappen van 5 cm	-
EC 004	<input type="checkbox"/>	<b>Standaard zit, XL</b>	ZB 50-56 cm; ZD 42-50 cm; RH 55-45 cm instelbaar in stappen van 5cm	145
EC 005	<input type="checkbox"/>	<b>VAS</b> (Vario Adjust Seat)	ZB 38-54 cm; ZD 38-58 cm; RH 55 cm; 53 cm; 51 cm; 45 cm	440



# JUVO

## Handcontrol

Stuurkast			
EU 052	<input type="checkbox"/>	TEN (90A)	-
EU 051	<input type="checkbox"/>	VR2 (max. 2 elektrische functies - niet i.c.m. FWD)	-

Externe buttons voor stuurkast			
EU 067	<input type="checkbox"/>	Piko Button diameter 50mm	175
EU 068	<input type="checkbox"/>	Piko Button diameter 30mm	175

Stuurkasthouder			
EU 070	<input type="checkbox"/>	Vaste stuurkasthouder	
EU 071	<input type="checkbox"/>	Wegzwenkbare stuurkasthouder in parallel, 2cm in hoogte verstelbaar	
EU 072	<input type="checkbox"/>	Wegzwenkbare stuurkasthouder in parallel, 9,5cm in hoogte verstelbaar	

# JUVO

## Accessories

Accessoires besturing			
EU 057	<input type="checkbox"/>	Begeleidersbesturing <input type="checkbox"/> rechts <input type="checkbox"/> links	780
EU 094	<input type="checkbox"/>	Easywave draadloze module	380
Track stabilisatie			
EF 023	<input type="checkbox"/>	Elektrisch (Gyro module) - alleen bij FWD	
Veiligheids accessoires voor frame			
EF 021	<input type="checkbox"/>	Stoepbeklimmer niet mogelijk i.c.m. FWD	393,62
ES 002	<input type="checkbox"/>	Kit voor transport in voertuig niet mogelijk met Recaro zitsystemen	195

# JUVO

## Fixation for special controls

Houder voor mo-Vis joystick			
EU 076	<input type="checkbox"/>	Wegzwenkbare arm voor kinbesturing, links mogelijk i.c.m. EU100/EU101/EU102	790
EU 077	<input type="checkbox"/>	Wegzwenkbare arm voor kinbesturing, rechts mogelijk i.c.m. EU100/EU101/EU102	790
EU 078	<input type="checkbox"/>	Bevestiging voor werkblad	220

# JUVO

## Special controls + TEN°

<b>Speciale besturingen</b> (directe verbinding met bus-systeem)			
<b>EU 105</b>	<input type="checkbox"/>	<b>mo-Vis Micro Joystick</b> (vereiste kracht 10g)	<b>2750</b>
<b>EU 106</b>	<input type="checkbox"/>	<b>mo-Vis Multi Joystick</b> (vereiste kracht 50g)	<b>2550</b>
<b>EU 107</b>	<input type="checkbox"/>	<b>mo-Vis All-round Joystick light</b> (vereiste kracht 120g)	<b>2200</b>
<b>EU 108</b>	<input type="checkbox"/>	<b>mo-Vis All-round Joystick</b> (vereiste kracht 250g)	<b>1550</b>
<b>EU 109</b>	<input type="checkbox"/>	<b>mo-Vis All-round Heavy Duty Joystick</b> (vereiste kracht 650g)	<b>2800</b>

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## Special controls + OMNI

Speciale besturingen		inclusief Omni Module	
EU 100	<input type="checkbox"/>	mo-Vis <b>Micro joystick</b> , vereiste kracht <b>10g</b>	<b>3343,30</b>
EU 101	<input type="checkbox"/>	mo-Vis <b>Multi joystick</b> , vereiste kracht <b>50g</b>	<b>3226,39</b>
EU 102	<input type="checkbox"/>	mo-Vis <b>All-round Joystick light</b> (vereiste kracht 120g)	<b>3226,39</b>
EU 103	<input type="checkbox"/>	<b>Blaas / Zuig besturing</b>	<b>2350</b>
EU 104	<input type="checkbox"/>	<b>Button besturing</b>	<b>2350</b>
		<b>Aantal buttons</b> <input type="checkbox"/> 1 <input type="checkbox"/> 3 <input type="checkbox"/> 4	

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## Examples

Speciale besturingen inclusief Omni Module			
EU 100	<input type="checkbox"/>	mo-Vis <b>Micro joystick</b> , vereiste kracht <b>10g</b>	<b>3343,30</b>
Houder voor mo-Vis joystick			
EU 076	<input type="checkbox"/>	<b>Wegzwenkbare arm voor kinbesturing, links</b> mogelijk i.c.m. EU100/EU101/EU102	<b>790</b>
			----- €4133,30

Kinbediening "Micro Joystick" + switch unit + montage: €4133,30

RIZIV terugbetaling; kinbediening elektrisch : €1968,12

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Supplement: €2165,18

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## Examples

Speciale besturingen inclusief Omni Module			
EU 100	<input type="checkbox"/>	mo-Vis <b>Micro joystick</b> , vereiste kracht <b>10g</b>	<b>3343,30</b>
Houder voor mo-Vis joystick			
EU 078	<input type="checkbox"/>	Bevestiging voor werkblad	<b>220</b>
Algemene accessoires			
ES 012	<input type="checkbox"/>	Werkblad	<b>320</b>

Vingerbediening + tafelblad + werkblad: €4133,30  
 RIZIV terugbetaling; Vingerbediening + werkblad : €2655,5

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 Supplement: €1477,8

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 €3883,30

Thank you for your attention!

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