

KUKA

Our robots

Collaborative

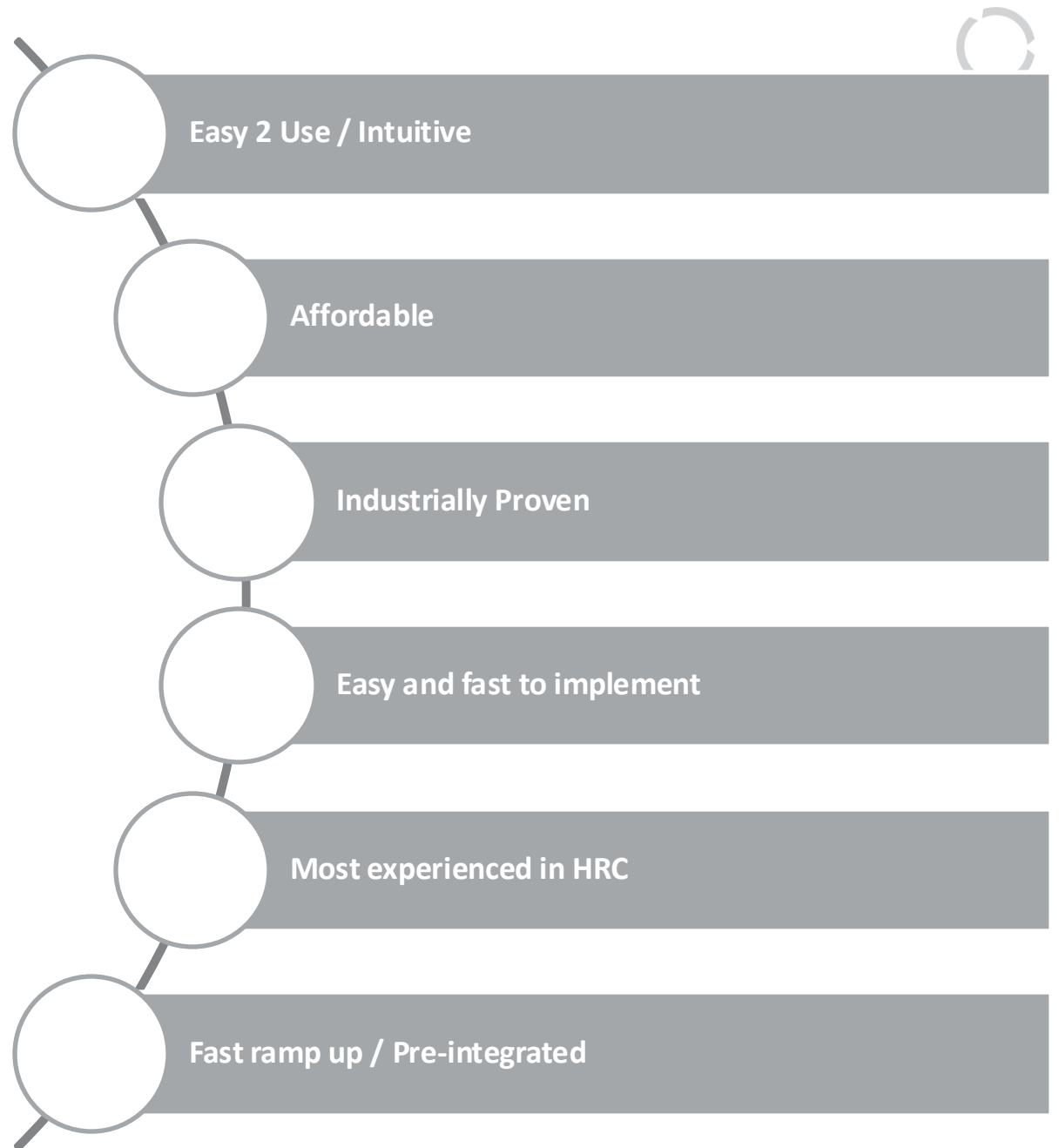


iiQKA Robotic Republic – We made a robot for EVERYONE! You will love it!



LBR iisy family





Robot-based automation is a megatrend.
We see opportunities.

- Robots as **intuitive to use** as smartphones
- Holistic **customer experience**
- **Accessible** hardware
- **Simplified** business interactions
- Easing the path for both **experts and newcomers**



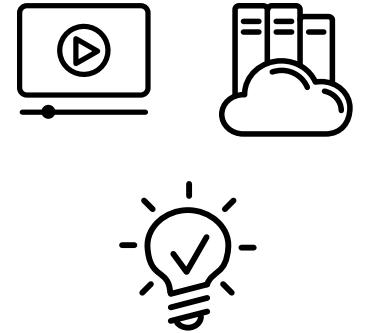
iiQKA Solutions

Enabling non-experts to start into automation easily; improving the process for experts

Today



iiQKA.OS



Biggest benefit for non-experts

(from *DAYS* to *HOURS* of time)

Experts also benefit

(from *HOURS* to *MINUTES* of time)

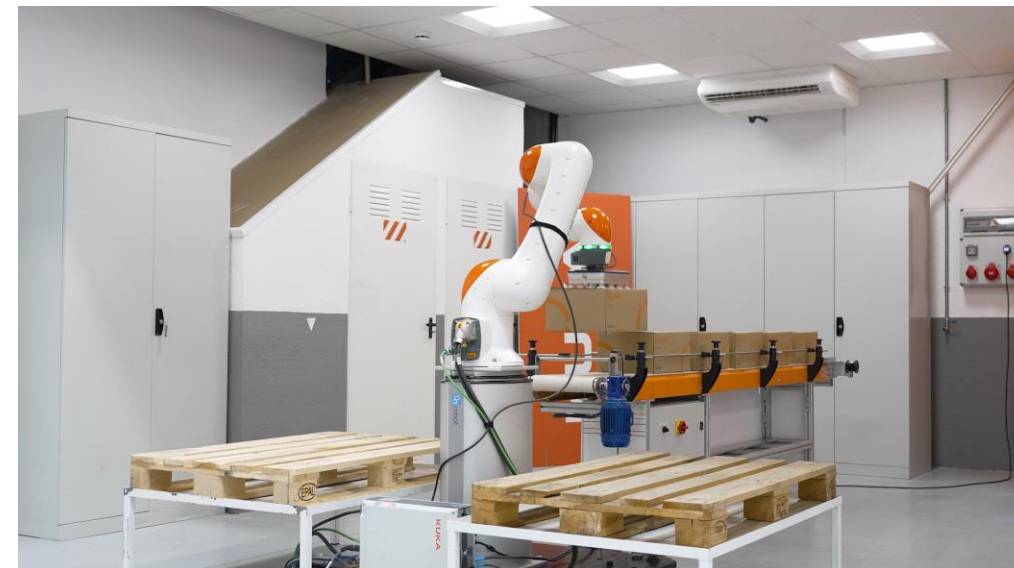
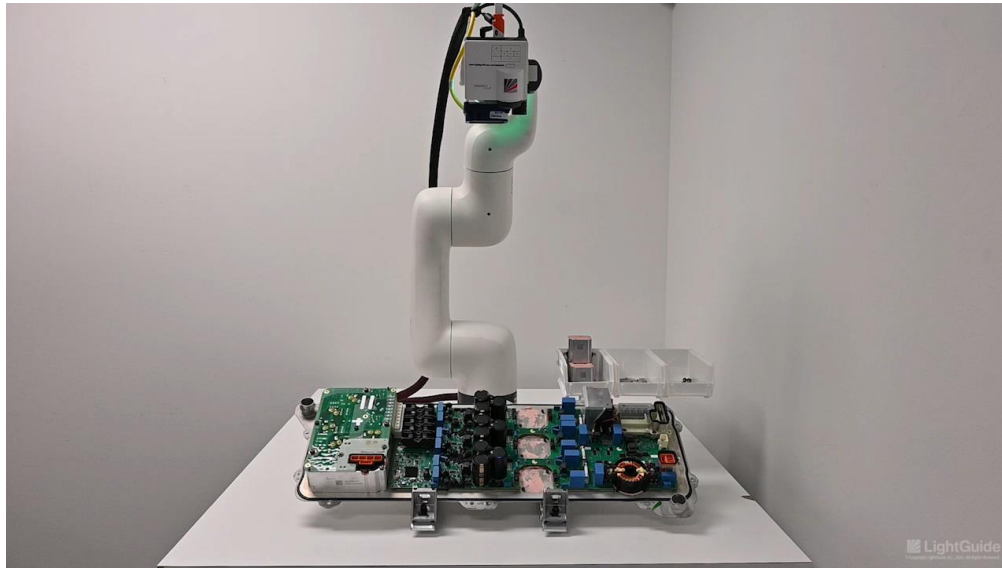
LBR iisy family Technical Data



	LBR iisy 3 R760	LBR iisy 6 R1300	LBR iisy 8 R930	LBR iisy 11 R1300	LBR iisy 15 R930
Number of joints	6	6	6	6	6
Payload	3 kg	6 kg	8 kg	11 kg	15 kg
Reach	760 mm to flange plate	1300 mm to flange plate	930 mm to flange plate	1300 mm to flange plate	930 mm to flange plate
IP rating	IP 30	IP 54	IP 54	IP 54	IP 54
Ambient temperature	5 °C to 45 °C	0 °C to 45 °C	0 °C to 45 °C	0 °C to 45 °C	0 °C to 45 °C
Internal Energy supply	1x Gbit Bus, 8 wires (I/O, Power line)	1x Gbit Bus, 8 wires (I/O, Power line)	1x Gbit Bus, 8 wires (I/O, Power line)	1x Gbit Bus, 8 wires (I/O, Power line)	1x Gbit Bus, 8 wires (I/O, Power line)
Performance Level	Level d Cat3 (same as LBR iiwa)	Level d Cat3	Level d Cat3	Level d Cat3	Level d Cat3
Cleanroom version	-	-	-	Q1/24	Q1/24
Mounting position	Floor, Ceiling, Wall	Floor, Ceiling, Wall	Floor, Ceiling, Wall	Floor, Ceiling, Wall	Floor, Ceiling, Wall
Weight	23 kg	46.3 kg	43.2 kg	46.3 kg	43.2 kg

KUKA

Applications



Our robots

Mobile





IP 54 Protection

- _ Splash water
- _ Dust

Easy Maintenance

- _ Large opening for easy access and serviceability

KUKA Navigation

- _ SLAM Navigation (based on laser scanners)
- _ QR Code Navigation (based on bottom camera)
- _ Fleet Management
- _ Highest flexibility without external efforts

SmartPad Pro

- _ Rear Door: Take out the SmartPad easily for robot teaching and programming
- Monitoring and manual operation



Both payload (15 R930 and 11 R1300)

- _ LBR R930 with 15 kg and LBR R1300 with 11 kg available

ISO 61340-5-1 & ANSI ESD S20.20

- _ ESD Protection for sensitive workspaces
- _ ISO 3 Cleanroom version available

WLAN antenna

- _ Top mounted for best WiFi signal strength
- 5G (planned)

Li-Ion battery / wireless in-process

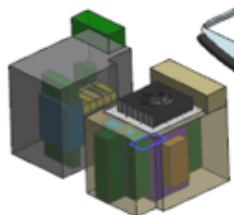
- _ 8 hours running time
- _ Less than 2 hours charging time
- _ Less than 1 hour recharged 20% - 80% SOC

Differential drive

- _ Preferred driving direction (+ turn on spot)
- _ Up to 1,5m/s speed

High Safety

- _ x laser scanner in front and rear (360° Protection)
- _ Reduced velocity and sound alarm for backwards driving
- _ 4x emergency stops & led strips
- _ Sound alarm & visual signaling



KUKA AMR_KMR iisy

Application Plate Access

- ✓ Access from top plate to KRC5μ for extension of robot system (IOs, Power, Ethernet, EtherCAT)

WLAN antenna

- ✓ Top mounted for best WiFi signal strength

LBR installation heights

- ✓ LBR iisy at the center:
0 / 100 / 150 / 200 mm
- ✓ LBR iisy at the left side:
0 / 100 / 150 mm



3D cameras (option)

- ✓ Obstacle detection up to 2000mm above ground (min. 100x100x100 mm)
- ✓ Falling down prevention

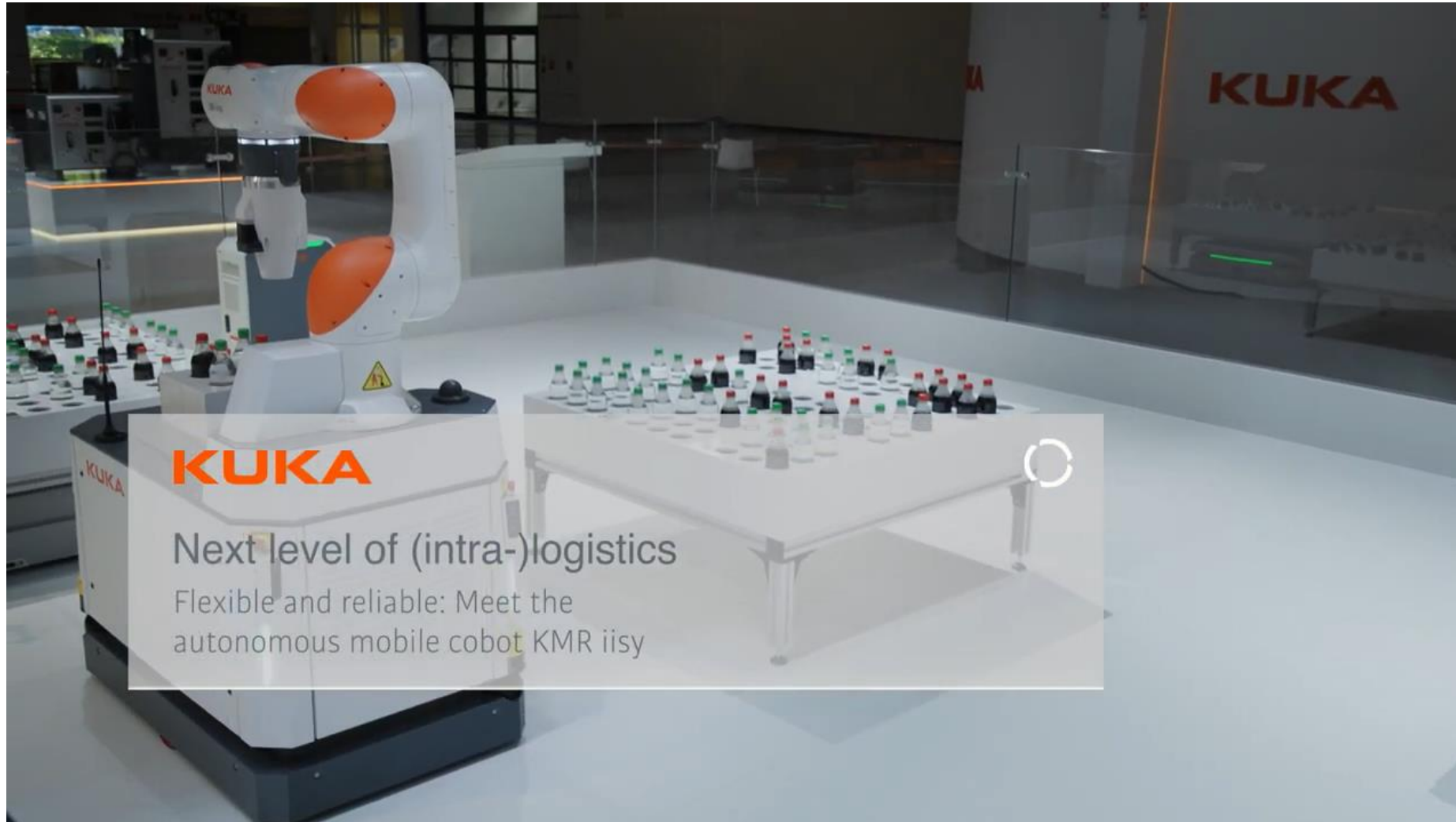
LED stripe (4x) at each corner side

- ✓ Easily understandable status information

Safety Scanner

- ✓ 360° safety monitoring
- ✓ Used for SLAM navigation
- ✓ Runs KUKA iiQKA.Mobility.Scanner

KUKA AMR_KMR iisy



<https://www.youtube.com/watch?v=AZUGbXOR9s0>

KUKA AMR_KMP



Payload

600kg

1500 kg

3000 kg



KMP 600W



KMP 600P



KMP 1500P



KMP 3000P omnimove

QR code

SLAM + QR code



Navigation

KUKA AMR_KMP 600W



Payload

- ✓ max. 600kg

Integrated Lifting + Rotating Mechanism

- ✓ 60mm lifting stroke
- ✓ Rotating stroke 360°
- ✓ Centering cone*4

Differential Drive

- ✓ Forward, backward, rotate on spot, arc
- ✓ Up to 2.0m/s speed

KUKA Navigation Solution

- ✓ Node label navigation
- ✓ Support SnowBox protocol
- ✓ Positioning accuracy $\pm 5\text{mm}/\pm 0.5^\circ$

Certification

- ✓ System level UL, FCC certified by SGS

High Safety

- ✓ 1x laser scanner in front
- ✓ Safe bumper in front/rear/sides
- ✓ 2x e-stop buttons
- ✓ Sound warning & Indicator light
- ✓ Central safety radio control unit

Hand-held Control Unit FNB

- ✓ Only for trained people
- ✓ Drive and lift motions

Li-Ion Batteries

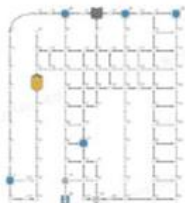
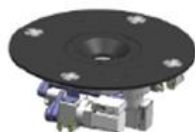
- ✓ 8 hours running time
- ✓ Less than 2 hours charging time
- ✓ More than 1500 full charge cycles

Manual Charger

- ✓ Portable
- ✓ User-friendly

Hand truck

- ✓ Tow forward and arc



KUKA AMR_KMP 600W





KUKA AMR_KMP 600P



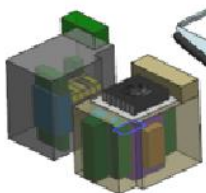
Payload

_max. 600 kg



IP 54 Protection (incl. 3D camera)

_Splash water
_Dust



Easy Maintenance

_Easy exchangeable control & power electronics cabinet



KUKA Navigation

_SLAM Navigation (based on laser scanners)
_QR Code Navigation (based on bottom camera)
_Fleet Management
_Highest flexibility without external efforts



High Safety

_x laser scanner in front and rear (360° Protection)
_2x 3D camera in the front and rear (optional)
_Reduced velocity and sound alarm for backwards driving
_4x emergency stops & side bumpers
_Sound alarm & visual signaling



Manual Controller

_Only for trained people

Load Detection Camera

_Load Identification & tracking

Certification

_UL certification by TÜV Rheinland
_FCC Options

Integrated Lifting Devices

_60mm lifting stroke

Li-Ion/LFP Batteries

_8 hours running time
_Less than 2 hours charging time
_Less than 1 hour recharged 80% SOC

Differential drive

_Preferred driving direction
(+ turn on spot)

Touch Display

_Status / Control menu



KUKA AMR_KMP 1500P



Payload

- ✓ 1500 kg



Lifting Unit

- ✓ 60mm lifting stroke
- ✓ Lifting time < 3 s

IP54

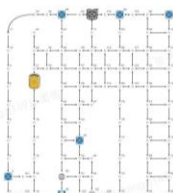
High Protection Level

- ✓ IP54



Easy to Use

- ✓ KUKA STUDIO
- ✓ KMReS
- ✓ User-friendly interface
- ✓ No programming



KUKA Navigation Solution

- ✓ Hybrid navigation: SLAM + QR code
- ✓ SLAM navigation
- ✓ QR-code navigation



Remote Controller

- ✓ Restricted to trained personnel only



Certification

- ✓ CE, UL, FCC



Li-Ion Battery and Charging Station

- ✓ 8 hours running time
- ✓ Less than 2 hours charging time
- ✓ Inductive charging station (coming soon)



Differential Drive

- ✓ Turn on spot
- ✓ Up to 1.5 m/s speed



High Safety

- ✓ 2× laser scanners (360 ° protection)
- ✓ 3× 3D cameras (front and rear)
- ✓ Bumper sensors on front/rear/sides
- ✓ 4× emergency stop buttons
- ✓ Audio reminder & visual warning



KUKA AMR_KMP 1500P



<https://www.youtube.com/watch?v=LfVk2qFgPks>

KUKA AMR_KMP 3000P



Payload

_max. 3000 kg



IP 54 Protection

_Splash water
_Dust



Easy maintaining functions

_Side disassembly of wheel units
and inductive charger



KUKA Navigation

_SLAM Navigation (based on laser scanners)
_QR Code Navigation (based on bottom camera)
_VDA 5050 interface
_Highest flexibility without external efforts



High Safety

_2x laser scanner front and rear (360° Protection)
_4x 3D camera in the front and rear
_6x emergency stops & side bumpers
_Sound alarm & visual signaling

Manual Controller

_Only for trained people

Load Detection Camera

_Load Identification & tracking

Certification

_CE and UL certification



Integrated Lifting Devices

_100mm lifting stroke

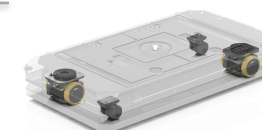
LFP Batteries

_6-8 hours running time
_Less than 2 hours charging time (10-90%)
_Inductive charging on the ground



Omnidirectional drive

_Omnidirectional movement
_Unloaded max velocity 1.2m/s (flat)
_Loaded max velocity 1.0m/s (flat)



Touch Display

_Status / Control Display screen 5"

KUKA AMR_KMP 3000P innovative & omnidirectional Drive Unit



Two driven steering wheel units allow maximum freedom of motion



Easy and fast exchange of roller coating at minimum cost

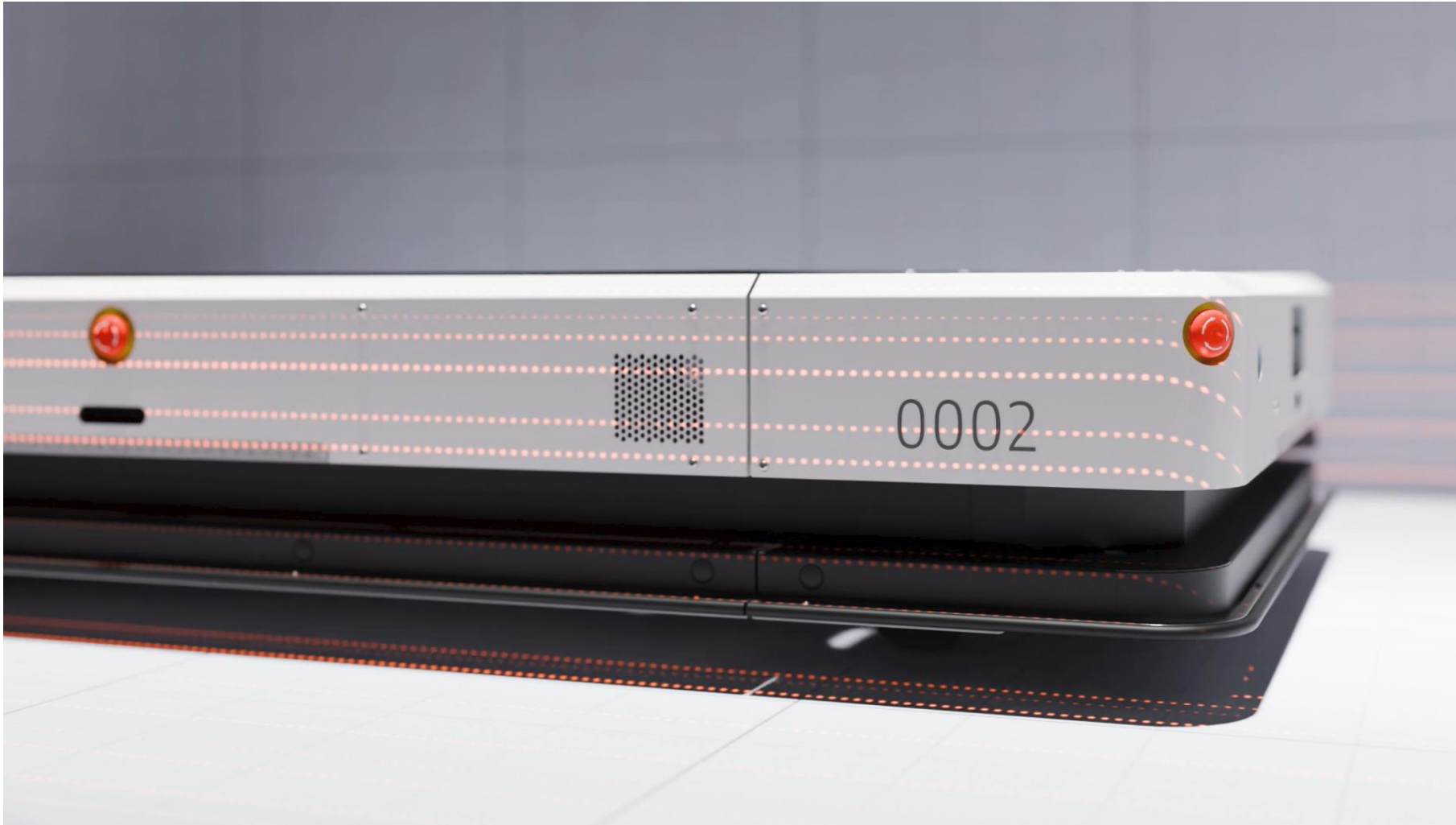


No movement during reorientation of the drive units on spot



Less wear due to mechanical design

KUKA AMR_KMP 3000P

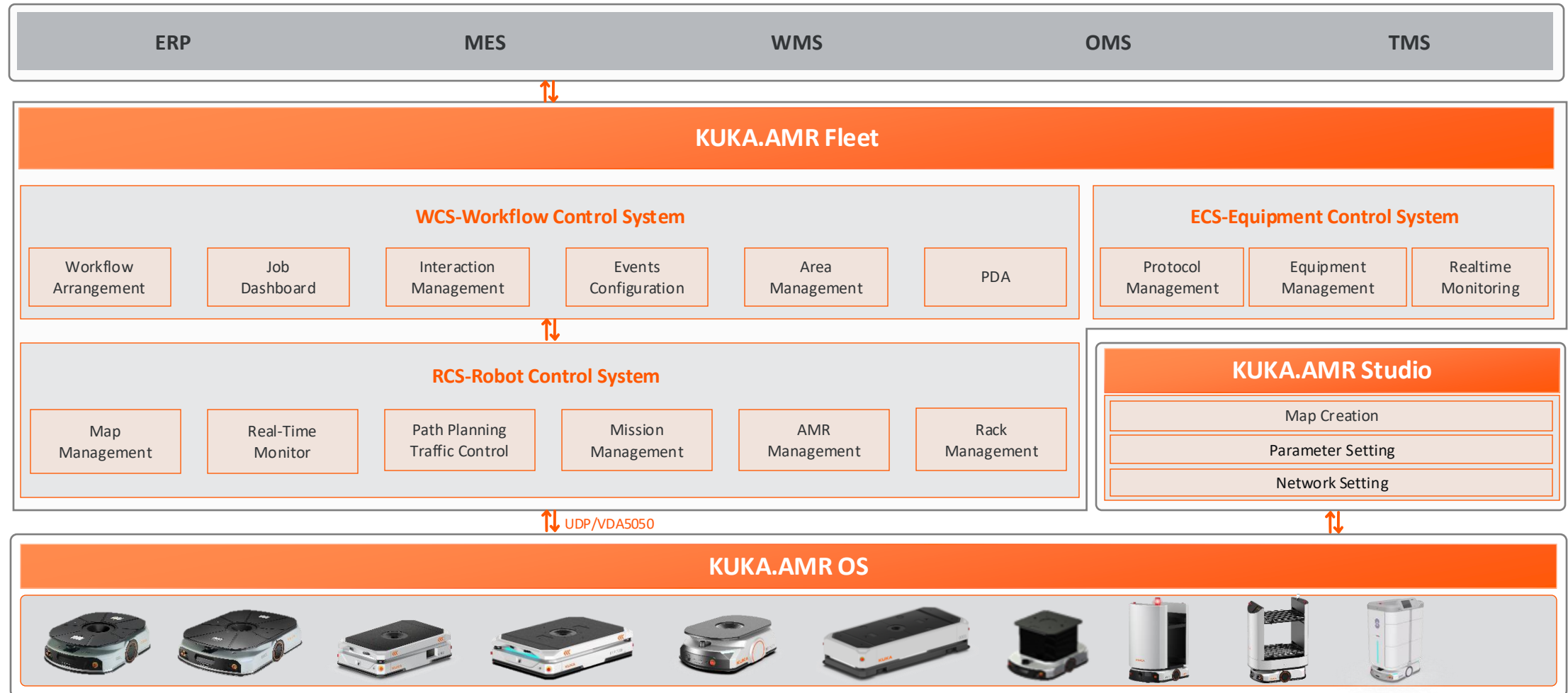


<https://www.youtube.com/watch?v=mreouqrpKkY>

KUKA AMR_

					
Model	KMP 600W	KMP 1500P	KMP 3000P	KMP 600P	KMR iisy
Dimension LxWxH	980x686x268 mm	1300x900x263 mm	2200x1200x370 mm	980x686x270 mm	1120x695x700 mm
Weight	154 kg	270 kg	800 kg	160 kg	max. 516 kg
Drive	Differential	Differential	Omnidirectional	Differential	Differential
Navigation mode	QR	SLAM & QR	SLAM & QR	SLAM & QR	SLAM
Laser obstacle	Front	Front/Rear	Front/Rear	Front/Rear	Front/Rear
Max. speed (w/o load)	2 m/s	1.8 m/s	1.2 m/s	2 m/s	1,5 m/s
Max. speed (w load)	1.5 m/s	1.5 m/s	1 m/s	1.5 m/s	1,5 m/s
Positioning accuracy	±5mm, ±0.5°	±10mm, ±1°(Slam)/±5mm, ±0.5°(QR)	± 15mm, ± 1° (SLAM) ± 5mm, ± 0,5° (QR)	±10mm, ±1°(Slam)/±5mm, ±0.5°(QR)	Offset Compensation
Battery type	LFP	LFP	LFP	LFP	Li-Ion
Battery endurance	8 h	10 h	6-8 h	10 h	8 h
Charging time	< 2 h	< 2 h	< 2 h	< 2 h	< 2 h
IP Class	IP20	IP54	IP54	IP54	IP54
Operating temperature	0-45°C	0-45°C	5-45°C	0-45°C	10-40 °C
Certification	CE DOI, UL, FCC	CE, UL, FCC	CE, UL	CE, UL, FCC	CE DOI, UL, FCC

KUKA AMR_Fleet = Algorithm Platform + Software Platform + Robot Platform



KUKA AMR_ WCS (Workflow Control System)



Process management

- Graphical configuration
- Convenient Interaction
- Complete configuration

KUKA

[Map Info](#)
[Map Monitor](#)
[AMR Info](#)
[Job Info](#)
[Container Info](#)
[Workflow Config](#)
[Equipment](#)
[Interface App](#)
[Settings](#)

English admin

[Workflow Config](#) / [Workflow List](#)

Number:

Name:

Advanced Search:

Search

Reset

Add Workflow Config

ID	Name	Number	External Code	Status	Button-bind	Abnormal	Action
No data							

Total 0 Trip

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0

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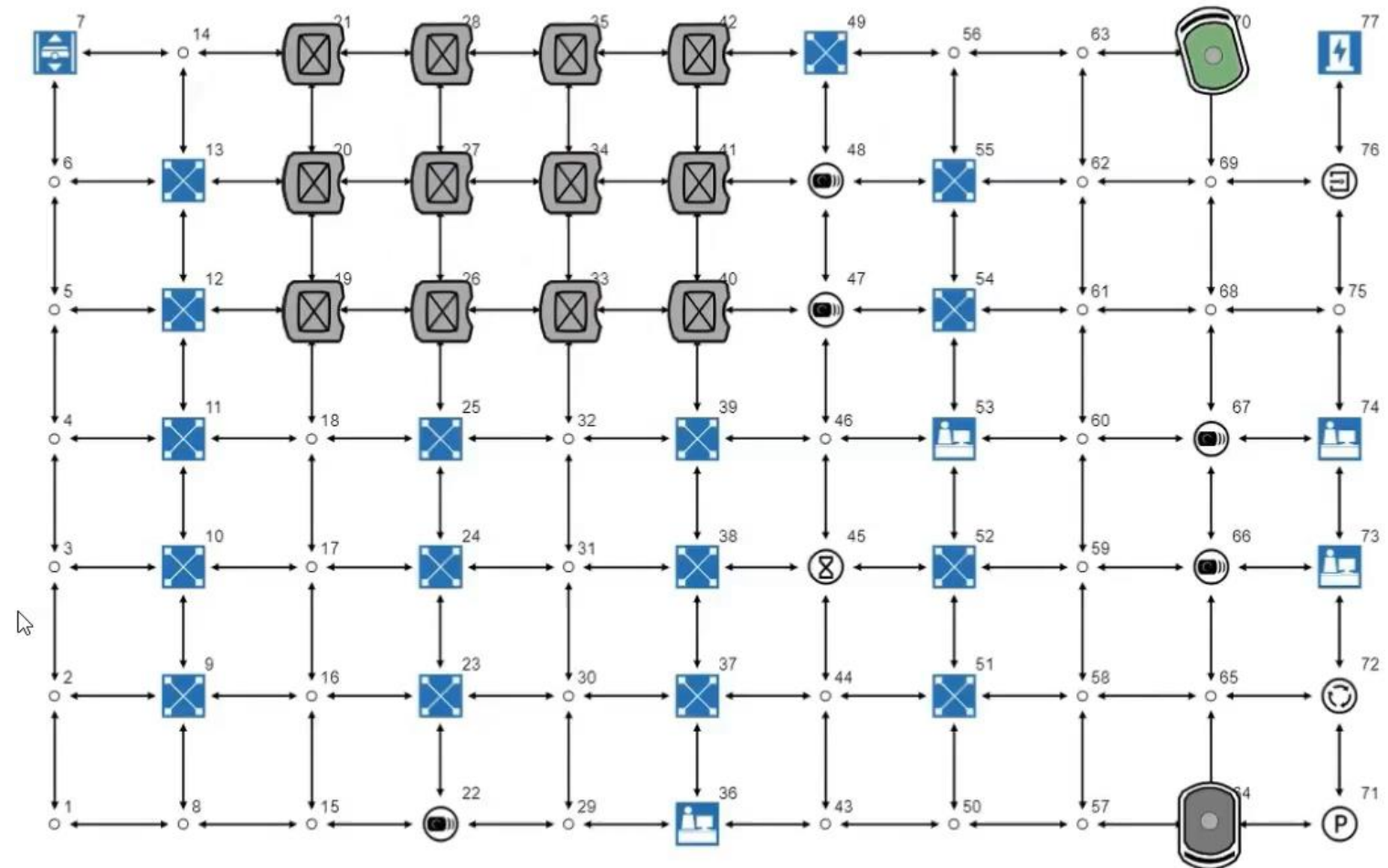
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KUKA AMR_ WCS (process management system)



Storage strategy

- Zone control
- FIFO
- Dense storage





Graph Creation

- Quick map drawing
- Convenient Interaction
- Task tracking

