

# Seamless E-Vehicles operations

Uroš Pivk Regional Sales Manager

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OUR MISSION

RIDANGO >>

### We are on a journey to simplify public transport through technology

At Ridango, we believe technology transforms transportation. Our products help our customers hide the inevitable complexity of operations to provide a better customer experience for millions of travellers daily.

We're committed to supporting the goals of public transport authorities and operators through intelligent transportation systems like account-based ticketing, contactless transit payments, demand-responsive transport, and real-time information solutions. And this is just the beginning of our journey.

#### PROFILE AT GLANCE

### RIDANGO >>>

### Awarded progressive ITS solutions for public transportation since 2009





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#### EXPERIENCED GLOBAL PLAYER IN E-MOBILITY

### RIDANGO »

- 1. Estonia
- 2. Lithuania
- 3. Finland
- 4. Sweden
- 5. Norway
- 6. Ukraine
- 7. Greenland
- 8. Singapore
- 9. HongKong

Azerbaijan
 Japan
 Slovenia
 Greece
 Croatia

10. India

- 16. New Zealand 17. Australia
- 18. Saudi Arabia
- 20. Oman
  21. Qatar
  22. Kuwait
  23. Malaysia
  24. Mauritius
  25. Mexico
  26. Czech Republic

19. Egypt

### SOME OF OUR CUSTOMERS - SMART MOBILITY

#### RIDANGO ờ

### FIFA World Cup Qatar 2022 Tournament Transportation system



#### Baku, Azerbaijan



### Makkah Mass Transit System Saudi Arabia



### SMRT, Singapore



### **Environment Canterbury** New Zeland



### MTR, Hong Kong





E-VEHICLES BENEFITS

Electric buses offer a number of advantages over traditional buses, including lower operating costs, reduced emissions, and quieter operation.



### Monitor and manage EV operations

AVL integration with charging stations, VPSD and legacy systems.



Connected bus fleet data Bus operator or authority

# 360 ° Overview for the operators



Various views and diagrams offer the operator a wide array of viewing options of the transport system

Vehicle health and diagnostics monitoring enables exact State of Charge (SOC) and battery health monitoring and preventive maintenance of the vehicle.

Well **documented APIs** enable the output of gathered information to external systems. Electric vehicles and the state of charge quickly recognized from real-time map



Vehicle health and electric parameters monitoring through telemetry data

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### Vehicles are color-coded for State of Charge (SoC) information and details are available

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### Depot charging station



CHARGING STATIONS ON THE REAL-TIME MAP

1





## Charging stations in depot are clearly marked on the map and color-coded for availability

12



### E-incidents

Detection and resolution of e-incidents such as : state of charge alerts, battery alerts, charge current alerts, charging faults, discharge current alerts, high temp. of battery alert, sudden SOC change, etc.

Y	Status: Active	× & Incident time: To	day 🗙 All		+ 🏝 🗄	12
~	Incident no.	Refers to	Туре	Severity <b>v</b> 1	Priority 🔹 Details	۲
$\sim$	2022-07-10-19	₩ 5108	Battery serious high tempera	Critical	100	(i) <b>:</b>
$\sim$	2022-07-10-17	🖽 3651 🚯	Battery serious high tempera	Critical	100	(i) <b>E</b>
$\checkmark$	2022-07-10-16	es 37	Battery serious failure	Critical	100	(j) 🚦
$\sim$	2022-07-10-15	em 9391 🚺	SOC low level two alarm	Critical	100	(j) 🚦
$\sim$	2022-07-10-13	🕮 9324 🚺	Critical SOC	Critical	100	(i) <b>i</b>
~	2022-07-10-18	ES 5108	Low SOC	High	100	(i) <b>:</b>

#### Incidents are configured by the user in the back office!

Charge current critically high is one time triggered:		۵	ą	0
Charge current critically high auto resolved:			P	0
Charge current critically high show on DCP:		۵	ą	0
Charge current critically high timer:	2000		ą	0
Charge current critically high threshold:	10		ę	0
Charge current critically high enabled:		8	ę	0
Change current critically high - LOW			0	



#### Driver's alert on the Driver Console

#### **RIDANGO**»

Efficiency and cost savings through BI monitoring



BI reports enable fleet managers to make data-driven decisions about their charging infrastructure and optimize their operations for maximum efficiency and cost savings through monitoring consumption per bus, driver, route or groups.



# Range prediction inputs

- Collection of high resolution data- on electric vehicle operations versus occupancy and ambient temperature for predicted range planning.
- >> Seamless integration with AI solution for range prediction.





### Easy management of E-vehicles in Ridango solutions



# Thank you!

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