HITACHI

Reliable Solutions

Environment Friendly Conversion in Construction Machinery

- Today, we will introduce electric conversion projects we offer as EDM e-mobility that we provide through environment friendly technologies.
- We will talk about our projects focused on enabling construction machinery to operate with sustainable energy and reducing the carbon footprint, as well as cost savings.
- Our aim is to provide services contribute to nature and your businesses together.

About US

As EDM e-mobility, we are a global clean energy company with 15 years of experience in electric conversion projects.

HITACHI Reliable Solutions
ELECTRICAL SYSTEM INTEGRATOR

ATLAS SINCE 1919 CRANES & EXCAVATORS
SOLUTION PARTNER

15 years of
global experience

Reliable Service,
Power Solutions Worldwide

Over 200
completed projects

CATERPILLAR SENNEBOGEN HITACHI KOMATSU LIEBHERR ATLAS REGGIANE

www.EDM-emobility.com

HITACHI

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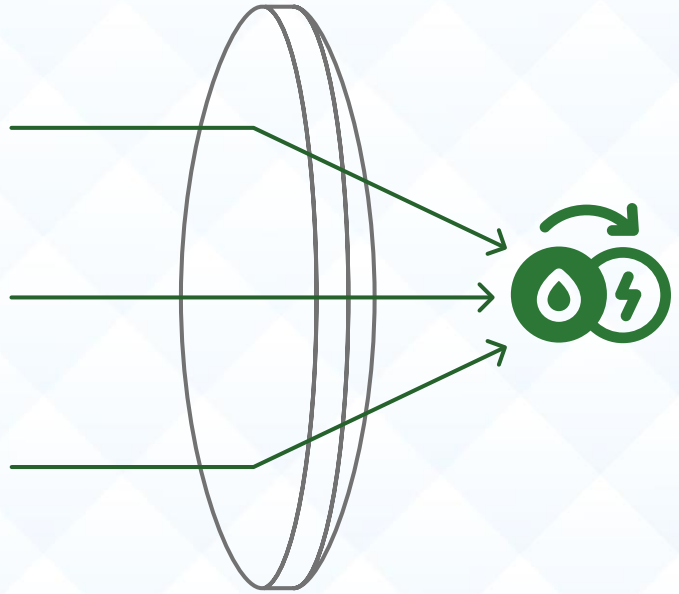
OUR MISSION

Low Carbon Emissions & Clean energy
Less harm to the environment, a cleaner future

Sustainability
Non maintance electric motor ensures sustainability

Fuel Economy
Cost saving operation



Energy Transformation for a Sustainable Future
Developing a cleaner, greener world

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WHAT WE DO

We remove diesel engines from construction machinery and replace them with environment friendly, efficient electric motors and cable drums.

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EDM e-mobility

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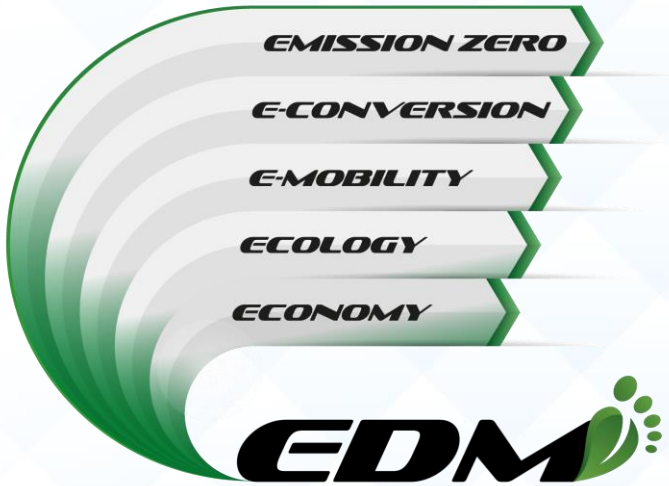
BENEFITS OF ELECTRIC CONVERSION



Zero Emission
Carbon Reduction

No More
Engine Failures

Increased
Torque and Power

Reduce Fuel-Related
Maintenance Costs!

Up to 75%
Savings in Fuel Costs

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BENEFITS OF ELECTRIC CONVERSION

CONSUMPTION AND COSTS IN ELECTRIC				
OPERATION HOURS	MOTOR POWER (kW)	DIVERCITY	ELECTRICITY PRICE USD / CENT	TOTAL ENERGY COSTS
10	1.200	0,6	0,09 USD	648 USD
50				3.240 USD
100				6.480 USD
1.000				64.800 USD
2.500				162.200 USD
5.000				324.000 USD

CONSUMPTION AND COSTS IN DIESEL						
OPERATION HOURS	MOTOR POWER (kW)	AVERAGE HOURLY CONSUMPTION (lt.)	UNIT PRICE	TOTAL FUEL COSTS	NET SAVING	RATIO
10	1.450	240 l/h	1,30 USD	3.120 USD	2.472 USD	79%
50				15.600 USD	12.360 USD	
100				31.200 USD	24.720 USD	
1.000				312.000 USD	247.200 USD	
2.500				780.000 USD	618.000 USD	
5.000				1.560.000 USD	1.236.000 USD	

- Periodical maintenance and consumables expenses of diesel operation are not calculated.
- 0% emission and up to 65% carbon footprint reduction after conversion.
- Diversity and fuel consumption are approximate.

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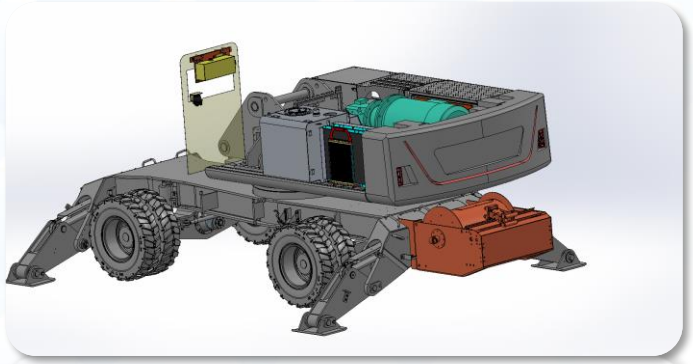
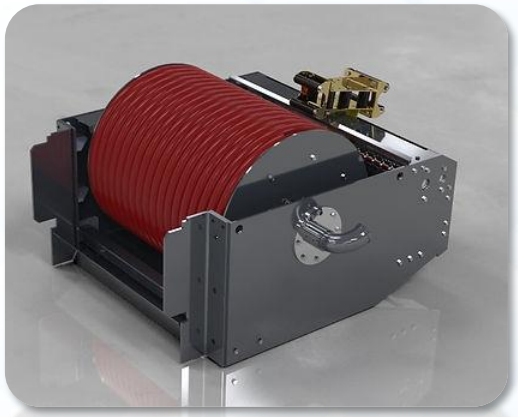
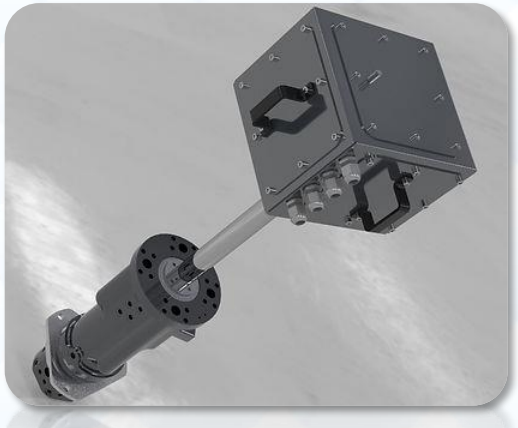
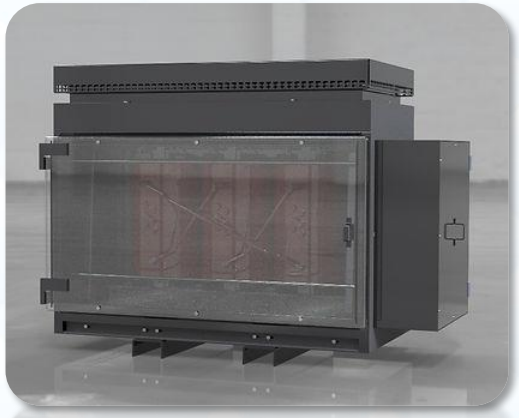
ELECTRIC CONVERSION COMPONENTS & DESIGN

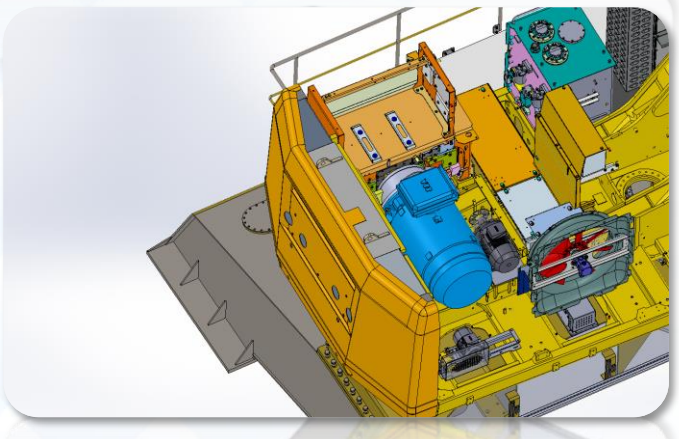
- 3D model design with our expert engineering team
- Pre-production dimensioning and model creation
- Post-production quality control and approval
- Electrical, mechanical and hydraulic system superposition
- Operating conditions simulation











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CARBON FOOTPRINT

You may also calculate your carbon emission reduction according to the kW power and working hours of your machine

FORMULA

For 100 kW electric motor:

CO_2 emissions per year= 300g CO_2/kWh × 100kW × 12 hour × 300 day= 108 tons CO_2

For 100 kW diesel motor:

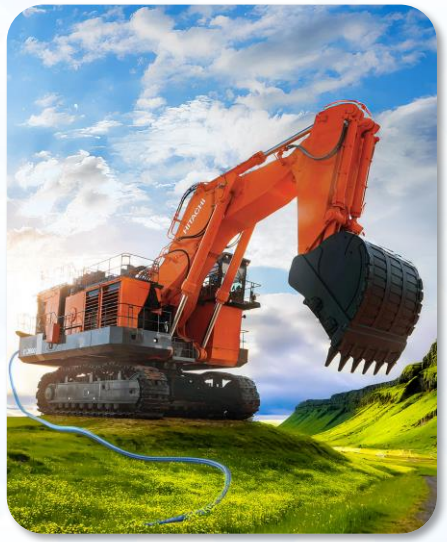
Fuel consumption per hour=100kW×0.27 liter/kWh=27 liter of diesel

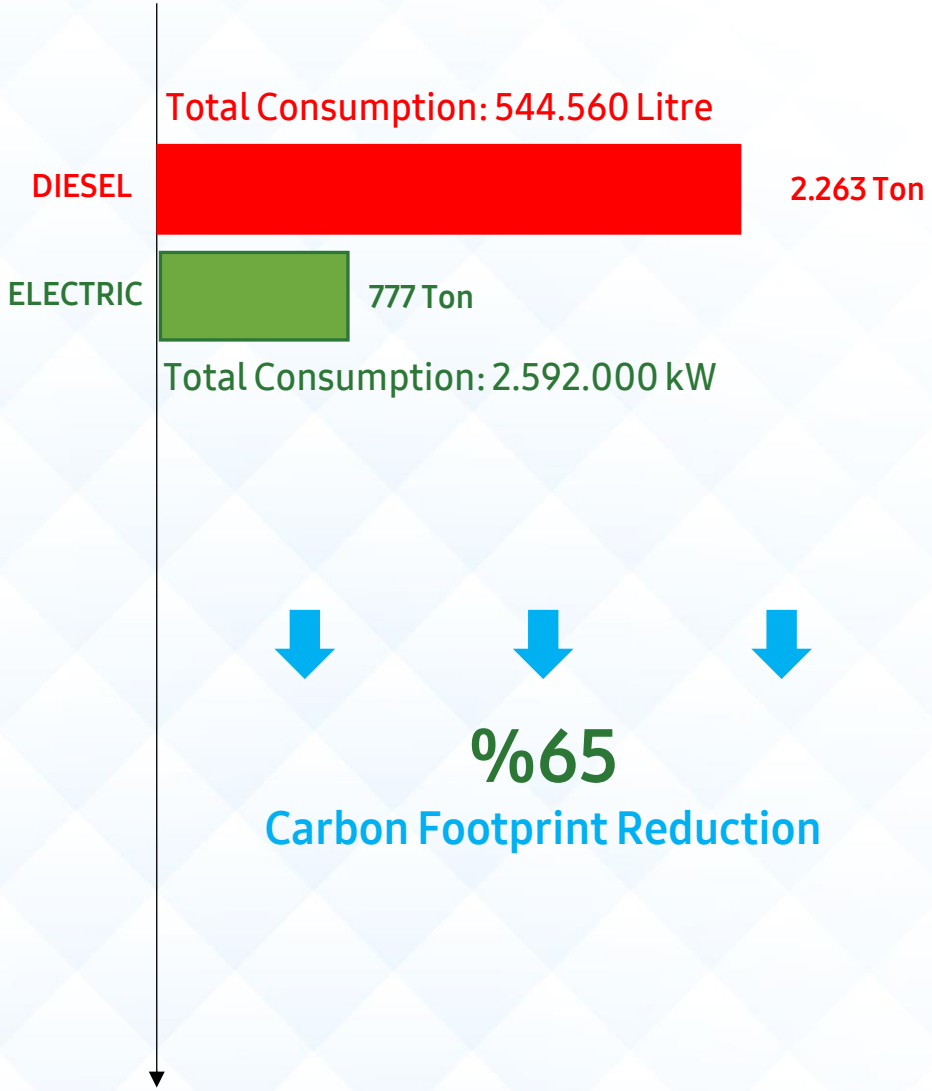
CO_2 emissions per year =27 liter × 2.68kg CO_2/liter × 12 hour × 300 day =260 tons CO_2

A project of converting to a 100 kW electric motor provides approximately 42 kg less carbon release per hour.

During continuous operation of 12-hour per day for 300 days/year, total carbon footprint reductions is 152 tons per year.

BENEFITS OBTAINED FROM THE CONVERTED HITACHI **EX 3600**





FORMULA

- **For 1.200 kW Electric Motor:**

CO_2 emissions per year= 300g CO_2/kWh × 1.200kW × 12 hour × 300 day × 0,6 = 777 tons CO_2
Total electric consumption per year is 2.592.000 kW

- **For 1.450 kW Diesel Motor:**

Fuel consumption per hour=1.450kW×0.27 liters/kWh =391 liters of diesel

Total diesel consumption per year is 544.560 liters

CO_2 emissions per year =391 litres × 2.68kg CO_2/liter × 12 hour × 300 day × 0,6 =2263 tons CO_2

Diversity = 0.6

%65

Carbon Footprint Reduction

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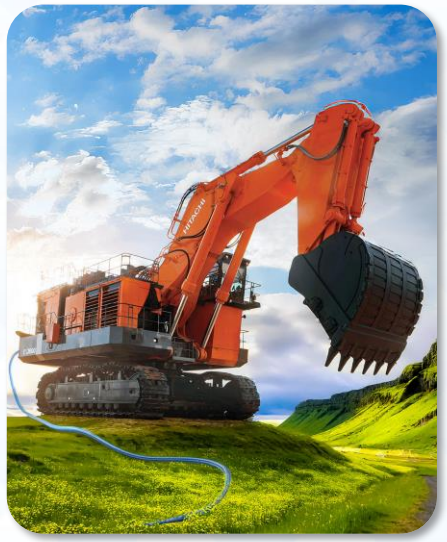
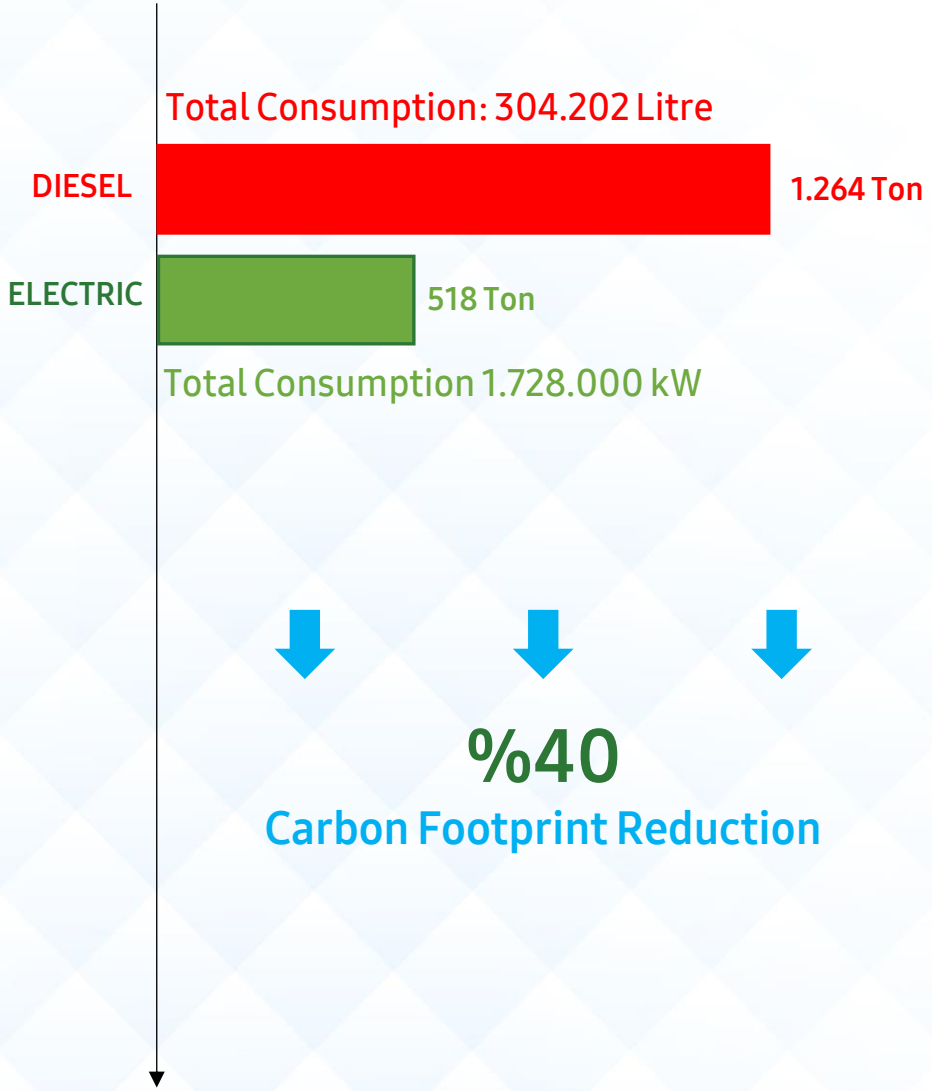
BENEFITS OBTAINED FROM THE CONVERTED HITACHI **EX 1900**





FORMULA

- **For 800 kW Electric Motor:**

CO_2 emissions per year= 300g CO_2/kWh × 800kW × 12 hour × 300 day × 0,6 = 518 ton CO_2
Total electric consumption per year is 1.728.000 kW

- **For 810 kW Diesel Motor:**

Fuel consumption per hour=810kW×0.27 liters/kWh =219 litres of diesel

Total diesel consumption per year is 304.202 liters

CO_2 emissions per year =219 litres × 2.68kg CO_2/liter × 12 hour × 300 day × 0,6 =1.264 tons CO_2

Diversity = 0.6

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EDM e-mobility

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Reliable Solutions

OUR PROJECTS

We have accomplished more than 200 projects, mainly Hitachi and Atlas, successfully converted to electric for well known brands of construction machinery, serving a wide range of industry.

HITACHI
59 Conversions

ATLAS
44 Conversions

SENNEBOGEN
33 Conversions

KOMATSU
25 Conversions

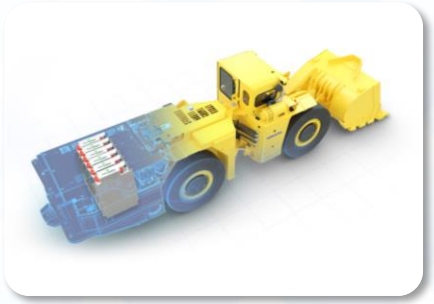
LIEBHERR
19 Conversions

CATERPILLAR
17 Conversions

REGGIANE
12 Conversions

OUR PRODUCTS

- BATTERY TECHNOLOGY
- CABLE DRUM
- SLIPRING
- TRANSFORMER HOUSE
- CABIN HEATERS
- MCC PANELS & AUTOMATION

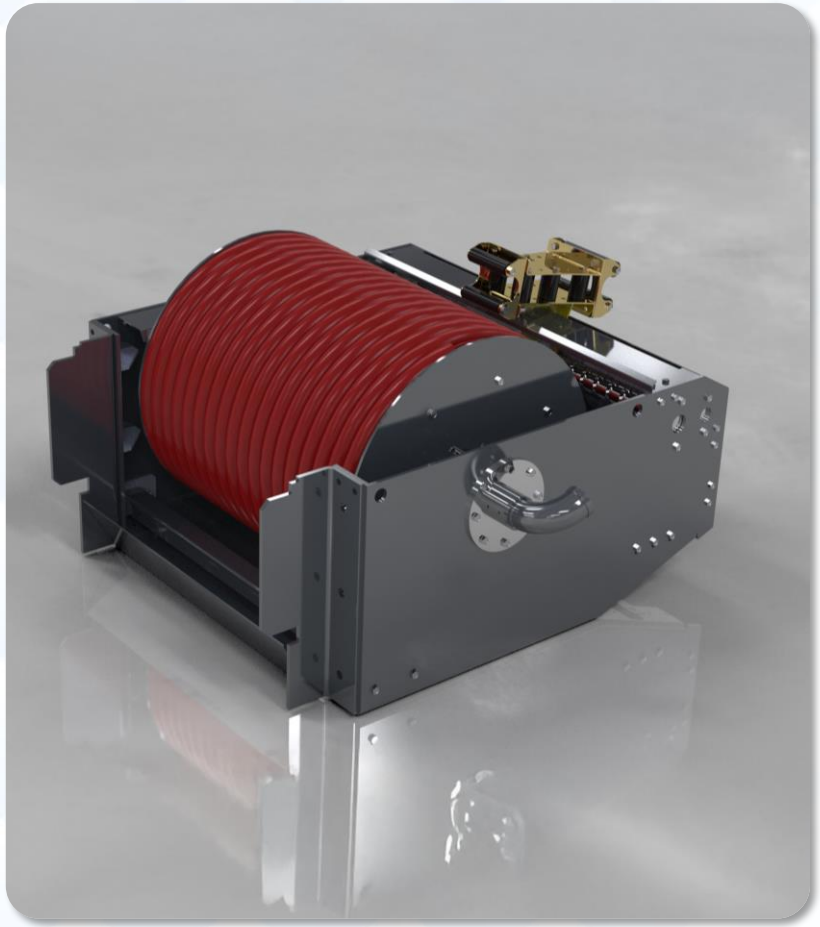


BATTERY TECHNOLOGY

TRANSFORMER HOUSES

CABIN HEATER

SLIPRING



CABLE DRUM

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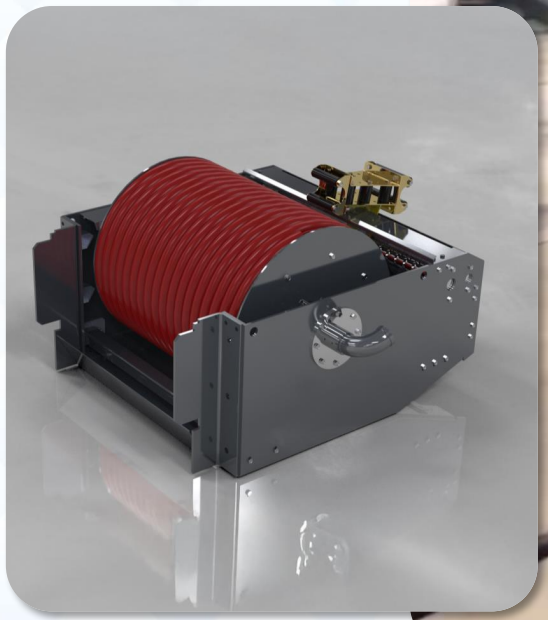
CABLE DRUM

The cable drum is particulary designed for the machine and exterior conditions, with various voltage and power options, for use in electric conversion applications. It ensures safe, efficient, and easier machine operation by transmitting electricity from power grid.



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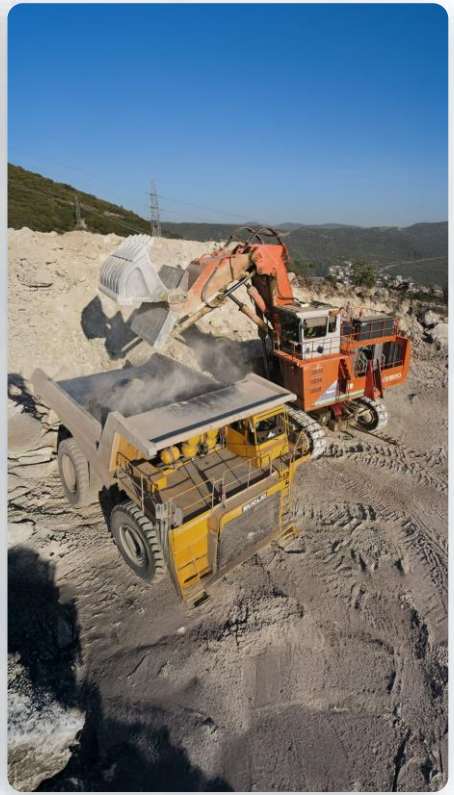
OUR ELECTRIC CONVERSION PROJECTS WITH HITACHI

The success of these projects lies in the combination of EDM's engineering expertise and the reliability of Hitachi machines.

Electrical System Integrator

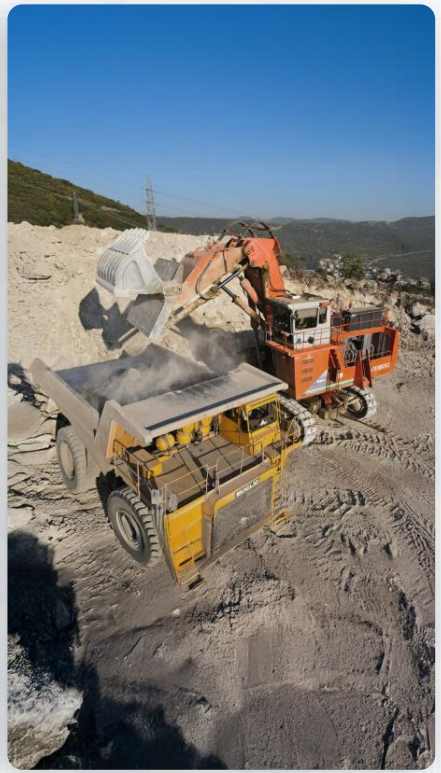
Reliable Solutions



OUR ELECTRIC CONVERSION PROJECTS WITH HITACHI

HITACHI

Reliable Solutions



- HITACHI 890
- HITACHI 1200
- HITACHI 1800
- HITACHI 1900

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OUR REFERENCES

KAPTAN DEMİR ÇELİK MARTAŞ PORT
- 1 UNIT SENNEBOGEN 6180 (560 kW)
- 1 UNIT SENNEBOGEN 6120 (355 kW)
- 1 UNIT SENNEBOGEN 880 (500 kW)
- 1 UNIT SENNEBOGEN 870 (250 kW)
- 3 UNITS SENNEBOGEN 835 (160 kW)

CEYNAK & CEYPORT
- 2 UNITS REGGIANE MHC 200 (560 kW)
- 3 UNITS REGGIANE MHC 40 (250 kW)
- 2 UNITS REGGIANE MHC 20 (200 kW)

EKMAR -EKİNCİLER PORT
- 2 UNITS SENNEBOGEN 880 (500 kW)

YEŞİLYURT PORT
- 1 UNIT SENNEBOGEN 6180 (560 kW)
- 1 UNIT SENNEBOGEN 6130 (355 kW)
- 2 UNITS SENNEBOGEN 880 (500 kW)
- 2 UNITS SENNEBOGEN 870 (250 kW)

PIRIL İNŞAAT
- 2 ADET SENNEBOGEN 835 (160 kW)

MULTIDOCKER SWEDEN
- 1 UNIT CAT 390F&M.D. CH1400 (355 Kw)

EFESAN PORT
- 1 UNIT GOTTWALD 320 (560 kW)

ATLAS GmbH GERMANY
- 8 UNITS ATLAS MHE 350 (132 kW)
- 4 UNITS ATLAS LCE 350 (132 kW)
- 2 UNITS ATLAS MHE 250 (90 kW)
- 3 UNITS ATLAS MHE 180 (90 kW)
- 5 UNITS ATLAS MHE 160 (75 kW)

HANS VAN DRIEL
- 2 UNITS SENNEBOGEN 850 (200 kW)

İM KÖSE MINING
- 4 UNITS CAT 390 F (400 kW)
- 13 UNITS CAT 385 C (400 kW)

MEGAREX RUSSIA
- 8 UNITS ATLAS MHE 550 (200 kW)

ÇELİKLER HOLDİNG POWER PLANT
- 4 UNITS HITACHI EX1200 (500 kW)
- 1 UNIT HITACHI EX890 (355 kW)

KASTAMONU ENTEGRE
- 1 UNIT LIEBHERR 904C (90 kW)
- 1 UNIT SENNEBOGEN 821 (90 kW)

YATAĞAN POWER PLANT
- 8 UNITS HITACHI 890 (355 kW)

NUH CEMENT & ÇİMNAK
- 1 UNIT HITACHI 1900 (800 kW)
- 1 UNIT HITACHI 1800 (2x355k W)
- 1 UNIT HITACHI 1200 (500 kW)
- 4 UNITS KOMATSU 550 (250 kW)
- 1 UNIT KOMATSU 450 (200 kW)

İZMİR DEMİR ÇELİK PORT
- 1 UNIT SENNEBOGEN 6180 (560 kW)
- 1 UNIT SENNEBOGEN 6120 (355 kW)
- 2 UNITS SENNEBOGEN 880 (500 kW)

FERNAS İNŞAAT A.Ş.
- 2 UNITS HITACHİ EX890 (400 kW)

EDM e-mobility

HITACHI

Reliable Solutions

Our MISSION

- Being a pioneer and leader of the electric conversion of excavators and other heavy machinery by utilizing the latest technologies.

Our VISION

- Providing the best service performance and highest client satisfaction through an innovative approach.

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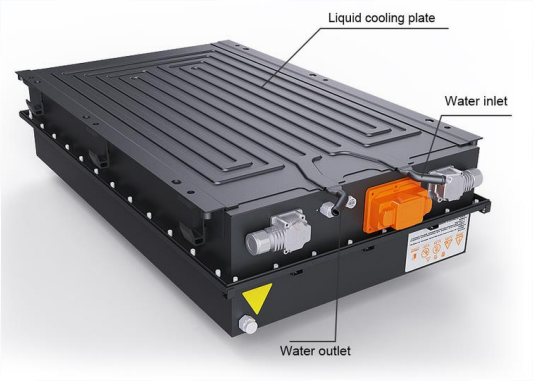
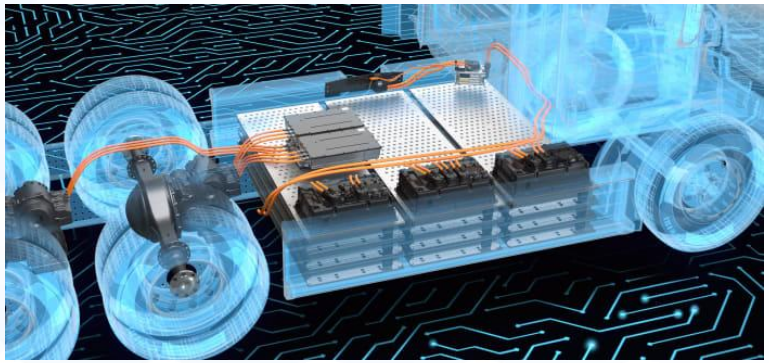
BATTERY TECHNOLOGY

- With lithium-ion battery technology, we have completed the R&D studies of our applications and are ready for the conversion of forklifts, loaders and dump trucks.





Our applications are designed battery packs that can be connected in parallel to increase capacity. These packs are BMS-controlled, CAN-bus communication, liquid-cooled, prismatic in structure, fast-charging, and long-lasting.

OUR APPLICATIONS

HITACHI
Reliable Solutions

By analyzing the site conditions and electrical infrastructure of your business, we design and implement customized projects for electrical infrastructure and machinery conversions, creating ideal solutions tailored to your site and machinery.

- Mining Site
- Recycling Facilities
- Ports

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HITACHI

Reliable Solutions

THANK YOU FOR INVESTING IN AND CONTRIBUTING TO OUR EARTH AND FUTURE

CONTACT

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