POWERISLAND

ENERGIA RINNOVABILE CONTINUA

POWER ISLAND

INTELLIGENT GENERATION HUB

AVONI®

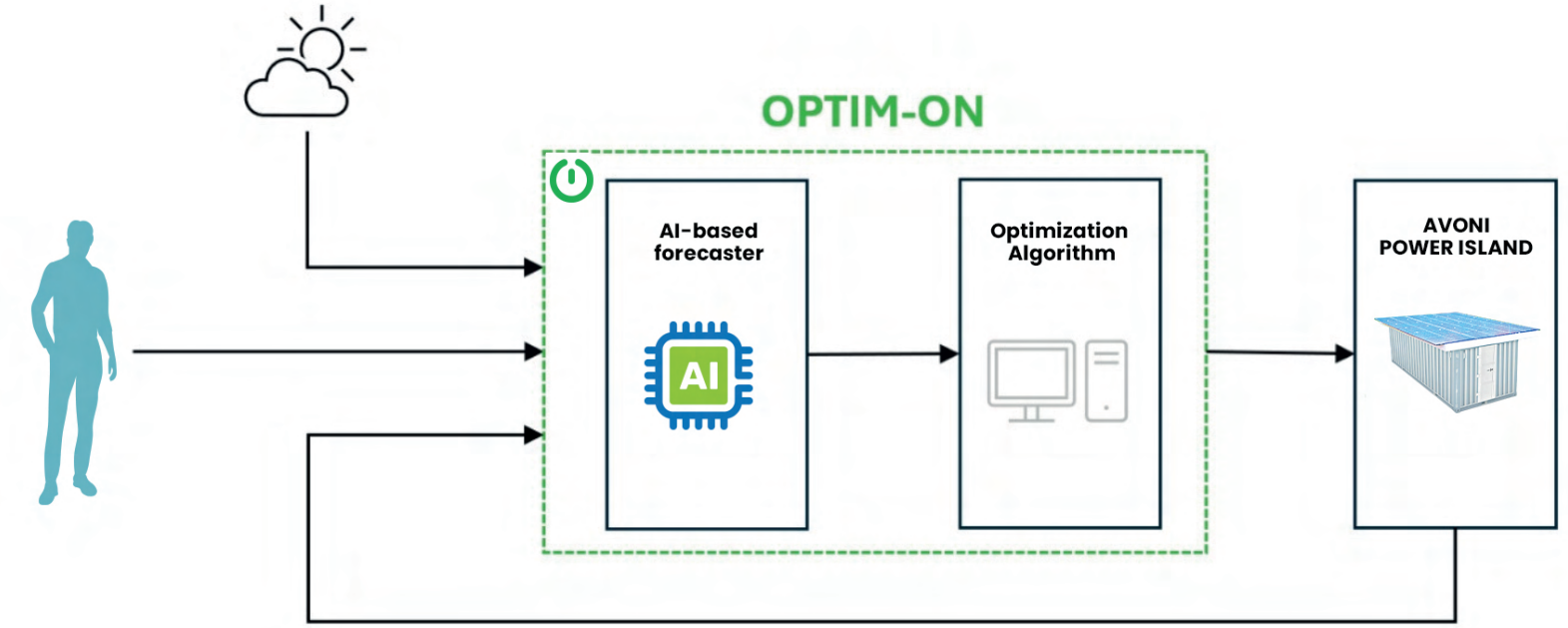
Since 1948

GREEN ENERGY LIKE YOU'VE NEVER HAD IT BEFORE

OPTIM-ON SYSTEM

Power Island is an autonomous, mobile, intelligent and green energy Hub developed by Avoni Industrial, designed to deliver reliable, flexible and sustainable power anywhere it's needed.

Thanks to a smart AI-based Programmable Logic Controller (PLC), Power Island dynamically manages multiple energy sources, based on real-time demand, optimizing both energy generation and distribution, preferring renewable sources.



OPTIM-ON

collects weather forecasts, user demand data, and the current operating states of the Power Island.

AI-ALGORITHM

An artificial intelligence algorithm predicts photovoltaic (PV) generation profiles and electrical load demands.

MILP

A Mixed-Integer Linear Programming algorithm optimizes energy production by minimizing system costs and computing the optimal operating points.

POWER ISLAND

follows the operating points provided by OPTIM-ON and returns actual parameters as new input for the next cycle.

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100% ESG COMPLIANT

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POWER ISLAND
INTELLIGENT GENERATION HUB
STANDARD CONFIGURATION

Power Island is 100% ESG Compliant, and represents the ideal solution for on and off-grid applications, emergency backup, or mobile charging stations always ready, wherever you are.

Generator

Power Island is equipped with an HVO-Ready Generator powered by an FPT Industrial F36 Stage V Engine, delivering 400Vac, 100kVA, 80kW, and running on HVO biofuel.

- Integrated 1,500-liter HVO Fuel Tank;
- 120-liter stainless steel AdBlue tank with automatic Refilling System.

Charging Stations

Power Island features three EV Charging Stations starting from 12.5 kW three-phase, suitable for electric vehicles.

Photovoltaic Panel

Power Island includes a Photovoltaic Roof system generating 7.4 kW, composed of 18 steel-series panels rated at 410W each, model DXM8-66H/BF 490-505W M8.

Main Features

- Peak shaving, grid forming, and genset optimization
- Active and reactive power generation based on EMS configuration
- Increased self-consumption of AC-coupled photovoltaic energy
- Reactive power generation based on grid voltage feedback
- Reactive power control with a fixed power factor

Energy Storage System

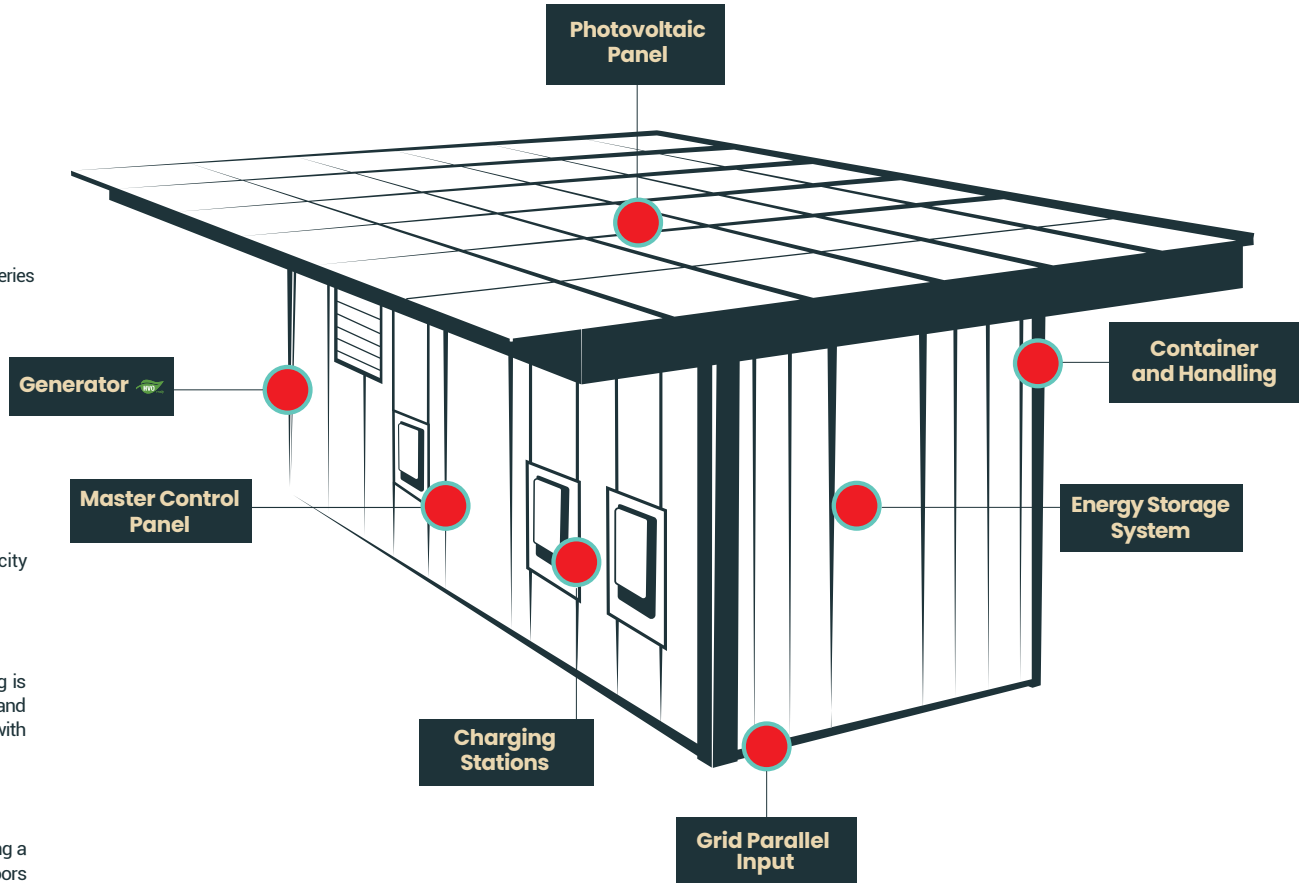
Power Island integrates a complete storage system rated at 35 kW with 71.68 kWh capacity and embedded EMS. CEI 0-16 and CEI 0-21 certified. Indoor installation.

Master Control Panel and Monitoring System

Power Island includes a ComAp InteliNeo Hybrid master control panel. Remote monitoring is enabled via the AV Connect telematics device, which is designed to acquire, process, and transmit real-time operating data. Thanks to its advanced connectivity and compatibility with various protocols, it ensures a secure and reliable data flow for efficient system monitoring.

Container and Handling

Power Island is housed in a standard-sized soundproofed container (10 or 20 feet), ensuring a residual noise level of 60 dB(A) at 7 meters in open field conditions. The container features doors and openings to facilitate maintenance access to energy generation components.
Standard color RAL 9001; custom finishes available upon request. It offers various handling solutions: four lifting points, forklift pockets, and roller-based towing.



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POWER ISLAND DEPLOYMENT CONTEXTS

APPLICATION SCENARIOS

Thanks to its modular, mobile, and off-grid design, Power Island is suitable for a wide range of deployment contexts.
Depending on the application, it can be configured in different modes.

Electric Vehicle Charging

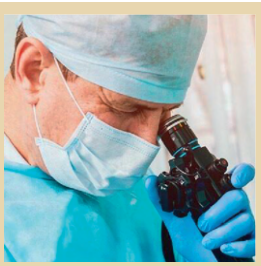
Power Island is equipped with EV Charging Stations, providing a smart, flexible, and sustainable solution for next-generation mobility. It can be installed virtually anywhere, enabling the activation of temporary or permanent charging points for electric vehicles, without the need for trenching, physical works, or heavy infrastructure, as typically required by fixed installations.

The energy required for vehicle charging is supplied by the PV system and/or the integrated generator.

Emergency Management

Power Island is a reliable solution for areas hit by natural disasters, crisis zones, emergency operations, and large temporary events requiring robust energy infrastructure. Thanks to its off-grid capabilities, it ensures immediate backup power, maintaining operations even during primary grid failures.

Its compact structure, portability, and resilience in extreme conditions make it ready for deployment wherever stable, secure, and rapid energy where it is needed.



Medical Center Power Supply

Power Island is an ideal solution for continuous, reliable power supply, perfect for mobile medical units. Its advanced technology ensures stable energy delivery even in remote or emergency environments. Compact and ready to operate, it remains functional under any weather condition.

A vital ally for mobile healthcare, where reliability and sustainability make all the difference.

Water Treatment

Power Island can power advanced water purification and desalination systems, securing a safe and sustainable water supply, even in the most remote or challenging environments. Its energy autonomy, modular design, and compatibility with renewable sources make it a strategic solution for tackling water emergencies, supporting isolated communities, and enhancing the resilience of critical infrastructure.

Power Island helps make water accessible anywhere, contributing meaningfully to water.

Worksite Applications

Power Island is the ideal energy source for mobile offices, large-scale construction sites, and highway infrastructure projects. It guarantees uninterrupted operation even without a connection to the main grid, delivering stable off-grid energy and eliminating setup times.

A Smart Energy Hub that enhances operational efficiency where power is essential.

Data Center

Power Island is a modular, autonomous, high-performance power solution designed to ensure continuous and reliable electricity supply for data centers-even under demanding conditions. Its advanced infrastructure guarantees grid stability, intelligent load management, and redundancy-key elements for data protection and operational continuity. It's ideal for temporary, expanding, or remote data centers not connected to the grid.

The integration of renewable energy and storage systems also makes it a sustainable and forward-looking choice for future IT infrastructure.

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POWER ISLAND PRO

TECHNICAL & COMMERCIAL DATA SHEET

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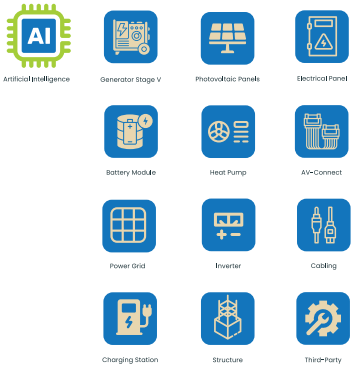
POWER ISLAND PRO FULL 40-FOOT

Ext. Dimensions (W x H x D): 12,2 x 2,89 x 2,43m - Int. Dimensions (W x H x D): 12 x 2,39 x 2,35 m

Configuration:

- Generator F36 STAGE V 100kVA
- Container 40-Foot first trip
- N.1 Comap Electrical Panel
- N.1 Battery BESS 35kW 70kWh
- N. 1 x AV-Connect
- N. 40 x Photovoltaic Panels (18kWp)
- N.1 Inverter HUAWEI 10kW
- 80kW Grid
- N.3 EV Charging Station
- Heat Pump
- Cabling
- Third-party works:

Setup for Powerpack, Container carpentry modification and internal cushioning, Painting, Photovoltaic Panel ready setup, Eletrical System.



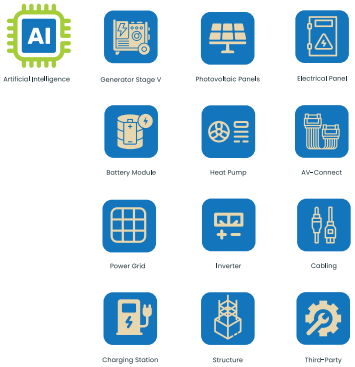
POWER ISLAND PRO FULL 20-FOOT

Ext. Dimensions (W x H x D): 6,05 x 2,59 x 2,43 mt - Int. Dimensions (W x H x D): 5,89 x 2,39 x 2,35 mt

Configuration:

- Generator F36 STAGE V 100kVA
- Container 20-Foot first trip
- N.1 Comap Electrical Panel
- N.1 Battery BESS 35kW 70kWh
- N. 1 x AV-Connect
- N. 18 x Photovoltaic Panels (8kWp)
- N.1 Inverter HUAWEI 10kW
- 80kW Grid
- N.3 EV Charging Station
- Heat Pump
- Cabling
- Third-party works:

Setup for Powerpack, Container carpentry modification and internal cushioning, Painting, Photovoltaic Panel ready setup, Eletrical System.

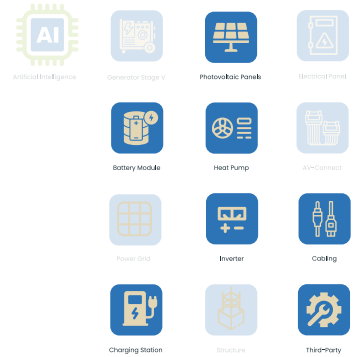


POWER ISLAND PRO BASE 40-FOOT

Ext. Dimensions (W x H x D): 12,2 x 2,89 x 2,43m - Int. Dimensions (W x H x D): 12 x 2,39 x 2,35 m

Configuration:

- Container 40-Foot first trip
- N. 40 x Photovoltaic Panels (18kWp)
- N.1 Inverter HUAWEI 10kW Panels
- N.3 EV Charging Station
- N.1 Battery BESS 35kW 70kW
- Heat Pump
- Cabling
- Third-party works



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- N.1 Battery BESS 35kW 70kW
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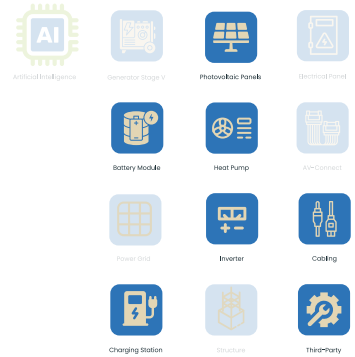

Customize your Power Island. Our engineering and sales team are available to support tailored configurations.

100% ESG COMPLIANT

AVONI Since 1948

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POWER ISLAND LIGHT

TECHNICAL & COMMERCIAL DATA SHEET

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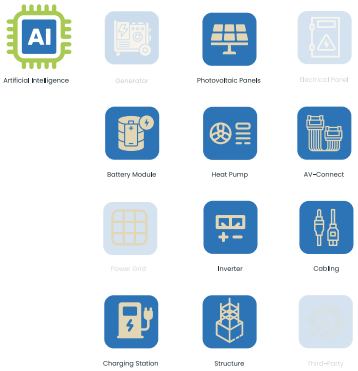
POWER ISLAND LIGHT FULL 40-FOOT

Ext. Dimensions (W x H x D): 12,2 x 2,89 x 2,43m - Int. Dimensions (W x H x D): 12 x 2,39 x 2,35 m

Configuration:

- Generator (on request)
- Container 40-Foot first trip
- N.1 BSM Module and Futura Sun Base
- N.5 Futura Sun Battery Module (17,75KWh) Base
- Heat Pump
- N. 1 x AV-Connect
- N. 40 x Photovoltaic Panels (18kWp)
- Inverter 15kW FuturaPulseTri 18kWp
- Structure for Photovoltaic Panels
- Cabling



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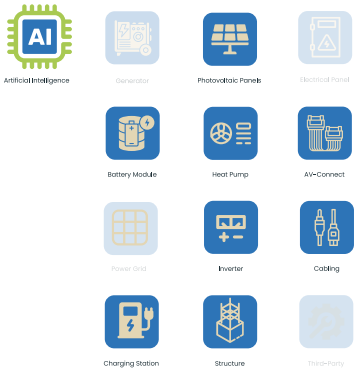
Ext. Dimensions (W x H x D): 6,05 x 2,59 x 2,43 mt - Int. Dimensions (W x H x D): 5,89 x 2,39 x 2,35 mt

Configuration:

- Generator (on request)
- Container 20-Foot first trip
- N.1 BSM Module and Futura Sun Base
- N.4 Futura Sun Battery Module (3,55 to 17,75KWh)
- Heat Pump
- N. 1 x AV-Connect
- N. 18 x Photovoltaic Panels (8kWp)
- Inverter 15kW FuturaPulseTri 8kWp
- Structure for Photovoltaic Panels
- Cabling



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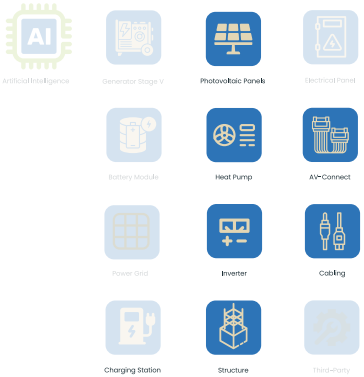
Configuration:

- Container 40-Foot first trip
- Heat Pump
- N. 1 x AV-Connect
- N. 40 x Photovoltaic Panels (18kWp)
- Inverter 15kW FuturaPulseTri 18kWp
- Structure for Photovoltaic Panels
- Cabling



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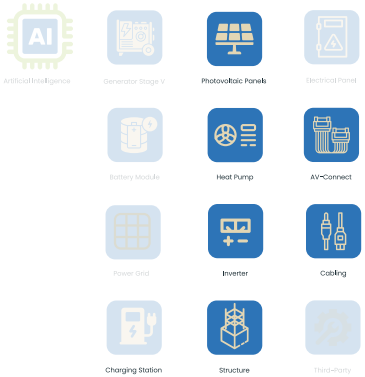
- Structure for Photovoltaic Panels
- Cabling



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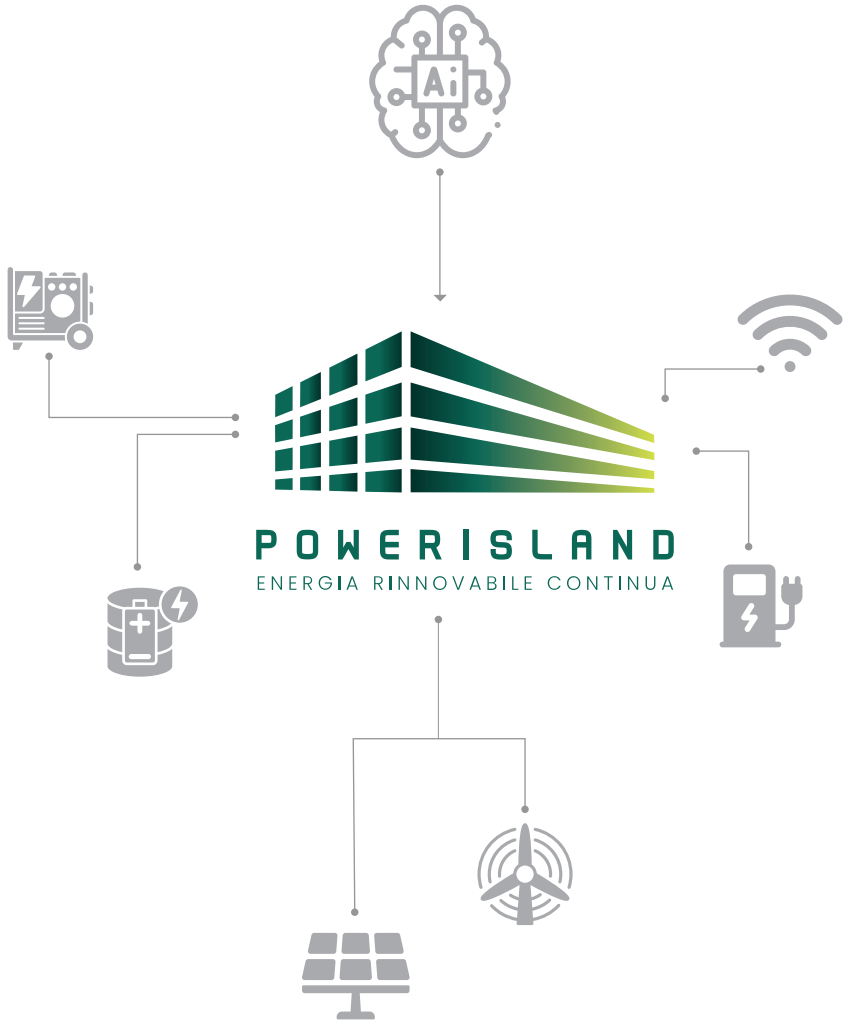

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