

# Huawei Indonesia Digital Power Your Best Partner in Carbon Neutral Movement

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**01**

**Huawei Digital Power Introduction**

# Vision of Huawei Digital Power

## Vision

Integrate digital and power electronics technologies, develop clean power, and enable energy digitalization to drive energy revolution for a better, greener future

June, 2021

Huawei Digital Power  
Technologies Co., Ltd.

was established

Global carbon neutrality will decisively transform energy for the future of our home and its generations to come.

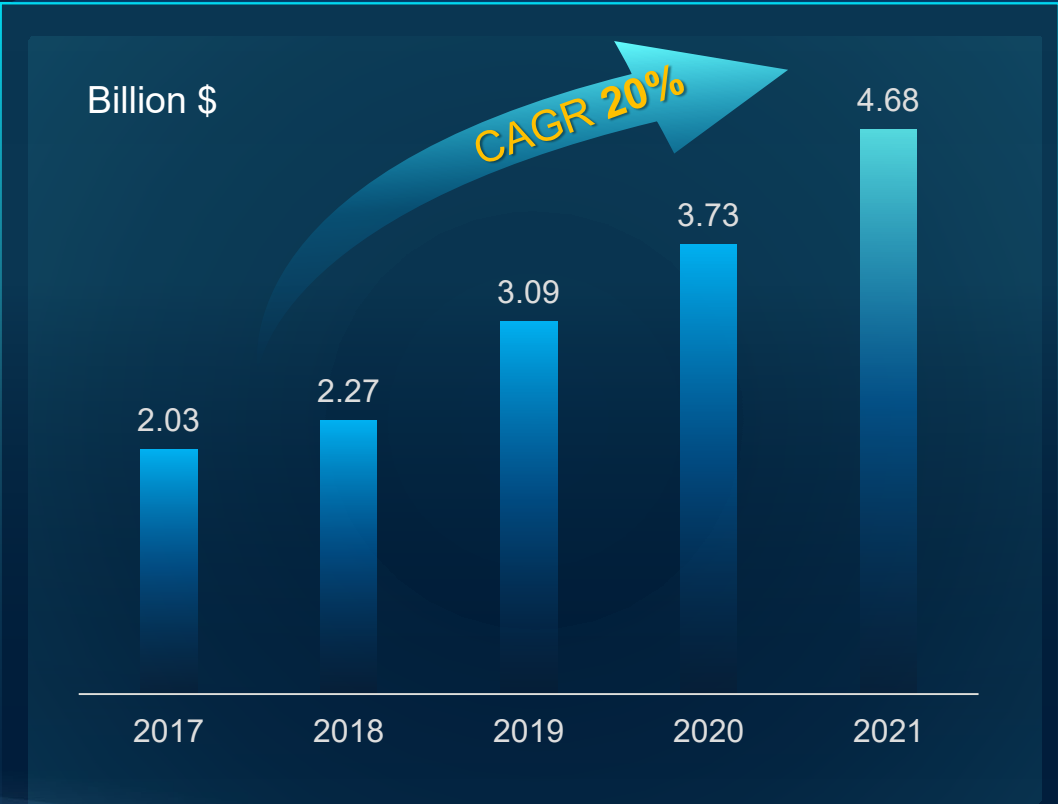
The key to carbon neutrality is to build a new power system based on new energy. Power generation, transmission, distribution, usage, and storage will all be built upon digital and power electronics technologies.

Huawei's unique value lies in its long-term R&D investment in digital and power electronics technologies. We focus on converging and innovating on technologies to accelerate the digitalization of energy and enable various industries to upgrade. We aim to accelerate clean energy generation, to build green transportation, sites, and data centers, and to ultimately contribute towards zero carbon buildings, campuses, and cities.

We are committed to open cooperation with like-minded people around the world to promote this transformation, to achieve carbon neutrality as soon as possible, and to build a better, greener future.

# Business maintains rapid growth

## Sales Revenue in Digital Power Business



## Applicable To 170+ Countries and Regions Serving 1/3 of the World's Population

<b>Smart PV</b>  <b>No.1 Shipments</b> in the world for 6 years <i>Source1</i>	<b>Data Center Facility</b>  Prefabricated modular DC <b>No.1</b> global market share for 7 years <i>Source2</i>	
<b>Site Power</b>  <b>340+</b> Telecoms & TowerCos <b>NO.1</b> , 35.6% global market share <i>Source3</i>	<b>DriveONE</b>  <b>15</b> OEMs, <b>40+</b> vehicles choose DriveONE	<b>Embedded Power</b>  <b>809 million</b> PCS delivered

Source1: IHS Markit & Wood Mackenzie  
Source2: Omdia  
Source3: Frost & Sullivan

# Widely recognized by the society

## Green energy saving awards



FusionSolar smart PV solution successfully selected as 2020 - 2021 **WWF Climate Founder Awarding Technology**



Huawei green 5G power solution won **ITU Global Industry Awards: Sustainable Impact**



Huawei SUN2000 distributed series smart PV inverters won **Intersolar Award**

## Technology innovation awards



Huawei iSuperSite Solution won the **Best Of Show Award** at Interop Tokyo





Huawei data center facility won the **DCS Award** from a European data center authority




Huawei smart electric MCU solution won **SAIC MOTOR Innovation Contribution Award**

# Global R&D teams and technology platforms: Leveraging the domain specific advantages globally to keep leading

 6000+ employees  
60% R&D

 12 R&D centers

 10%+ R&D investment

 1300+ patents



# Green power generation: solar as main power source benefits thousands of industries and millions of households

## Large smart PV power plant

Challenges: high cost and weak grid scenario

Trends: high voltage, large subarray, and intelligent

### Smart PV + storage

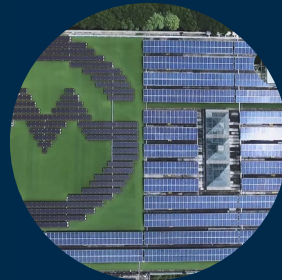


## Distributed smart PV

Challenges: rooftop installation and safety, optimal power generation

Trend: green power for thousands of industries and households

### Industry green power



### Household green power



## Micro Grid

Challenges: D.G. power generation cost and pollution

Trend: eliminating the energy divide by smart PV+ storage

### Islands with unreliable power grid areas



# Working with partners to promote renewable energy worldwide



Full digitalization



Simplification



Automated O&M

Since 2013, Huawei-built PV plants have generated 180 billion kWh of electricity, equivalent to reducing 108+ million tons of carbon emissions or planting 200+ million trees



Residential in Germany  
10 kW



BayWa, Netherlands  
27 MW



Don Rodrigo, Spain  
175 MW



## World largest smart PV generation @ Qinghai



2.2GW@Qinghai, China

The full operating condition (SCR as low as 1.2) is stable

Intelligent IV diagnosis, 2 months O&M inspection → 15 minutes

∴ The world's first long-distance, UHV channel for 100% renewable energy  
New energy power generation projects completed in the world in the shortest time  
Grid-connected time: sep. 30, 2020

## Factory rooftop smart PV @ Dongguan



17.5MW@Dongguan, China

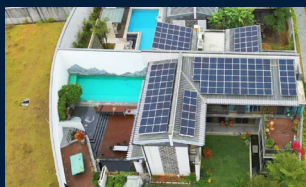
Self generate and self-use, PV annual electricity yield 17.1 million kwh, saving electricity cost 11.8 million yuan/year

Short ROI period, < 5 years

Reduction of carbon emissions 8122.5 tons

\* The power plant has a roof area of 200,000 square meters and more than 70,000 PV modules are installed.  
Average electricity price: CNY0.69/kWh  
\* Electricity carbon emission conversion factor: 1 kWh electricity equivalent to 475g CO2

## Household rooftop smart PV rooftops @ Dongguan



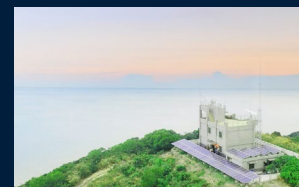
Self-use, 61% green energy , saving 25,000 yuan/year

Practice low carbon living, 24 hours self-use, safe and reliable

30KW PV + 45kwh energy storage @ Dongguan, China

\* Roof area 237m2 with total investment of RMB 230,000.  
The annual PV power yield is 3.48 million kwh.  
Average residential electricity price: 0.72 yuan/kwh,  
electricity consumption > 40,000 kwh/year

## Off grid island @ Zhuhai: smart PV + storage



Solar + smart energy storage @ Zhuhai, China

The DG cost reduced by CNY220,000 per year, and the ROI less than 2 years

Intelligent management reduces maintenance costs by 50%, 0 service interruption

Zhuhai hebao island VTS ship navigation station, daily power consumption ~ 360 kwh  
The expenses incurred by the diesel generator for power generation include the fuel, transportation, and maintenance expenses.

**02**

# **Huawei Indonesia Introduction**

# Long-term commitment & continuous investment in Indonesia



**2000+** employees  
**90%** are local employees

Created **20,000+** jobs  
directly and indirectly

Headquarters at **Jakarta**

**17** Region Offices,

**100+** Service Points,

**5** National Logistic Centers



AEO



KEMENTERIAN  
KETENAGAKERJAAN  
REPUBLIK INDONESIA

'0 Accident'Y2017 /18/19/20

## Indonesia

Exploring a Better Connected Indonesia



Golden TAX payer



Excellent Import Enterprise

**2** Innovation Centers: Telkomsel & XL Axiata  
Knowledge Exchange with **50** Top universities  
in Indonesia

# 17 regional offices and 5 logistics centers in Indonesia



# I Do for Indonesia

670+  
Training  
sessions

50  
Cooperative  
Universities

28K+  
Trainees

6  
High level  
Talent MOU



Huawei signs  
MOU with **KSP**  
to train 100K  
digital Talents  
for Indonesia

**I Do Contribute**  
Building Eco-system to Support Indonesia 2045

**I Do Collaborate**  
Supporting Digital Transformation in Indonesia



Enrich  
Communications



Connect the  
Unconnected



Always Ready  
for Connection



**I Do Create**  
Building Connections in Indonesia for All

**I Do Care**  
Continuously Support Local Communities



# Digital Power: Your Best Partner for a Better, Greener Future

By December 31, 2021, Digital Power has helped customers

generate green power	save power	reduce carbon emissions	equivalent to planting
<b>482.9 billion kWh</b>	<b>14.2 billion kWh</b>	<b>230 million tons</b>	<b>320 million trees</b>



Conversion note:

1 ton of CO<sub>2</sub> emissions is equivalent to 1,000,000 kWh of electricity. 1 kWh electricity is equivalent to 475 g CO<sub>2</sub> (global average). Source: IEA Global Energy & CO<sub>2</sub> Status Report 2018

Note 2: 1 ton of CO<sub>2</sub> emissions is equivalent to 1,000,000 kWh of electricity. A tree absorbs 18.3 kg of CO<sub>2</sub> a year, and each tree has a 40-year lifespan. Source: Open data of the North Carolina State University website