



Huawei IDS1000 Container Data Center Solution

HUAWEI TECHNOLOGIES CO., LTD.





Traditional data centers suffer from long construction periods, high energy consumption and high initial investment, so it is difficult for fast-moving businesses nowadays to manage rapid future expansion. To help resolve these issues, Huawei has launched the IDS1000 outdoor data center solution, which has a highly integrated power system, environmental monitoring, cooling systems, racks, cabling, fire control, security and other infrastructure facilities, all packaged in a standard shipping container. This solution complies with the diverse business needs of customers today.

Huawei IDS1000 series container data center solutions include two types: IDS1000-C (Cluster) and IDS1000-A (All-in-one), providing more than 10 solutions for customers.

Complete series of products, flexible expansion, suitable for data center of different scale and construction level

- 20/40ft All-in-one single container and multi-container cluster solution, covering small, medium and large data centers (30~1000kW) with different rated power consumption (3kW~15kW).
- Independent power and cooling containers for flexible configurations, could be updated from TierII construction level to TierIII+.
- Customized multi-function ICT containers, making outdoor data center suitable for both living and officing needs.

Highly integration, one-week fast deployment and mobile data center

- One-stop solution, integrating racks, monitoring, cabling, power, fire control and air-conditioning systems.
- Pre-engineering design, one-week fast deployment, no building required, only construction field, power and network connection needed.
- High impact shock absorption system to meet needs of mobile scenes such as the military, disaster relief, exploration, field operations.

High environmental adaptability, applicable in different extreme environments

- Operation temperature: -40°C~55°C, applicable in extreme high and low temperature regions; closed-loop cooling system, no more water tower required, suitable for arid areas.
- IP56 dustproof and waterproof design, application in a dusty mining area; enhanced bulletproof design, applicable in special high-risk scenes like prisons.
- Special anti-corrosion treatment to meet the seaside and corrosive environment needs, service lifetime up to 15 years.

Energy saving, significant save of investment on ancillary facilities and operation cost

- Shorten the construction time by 1~2 years, launching in advance, increasing ROI (Return On Investment).
- Horizontal air supply, efficient UPS, hot and cold aisle containment, free cooling, PUE can be reduced to 1.2, OPEX can be cut greatly.
- Spacing saved more than 30%.

Smart interaction, automatic management

- Monitoring the container temperature, humidity, smoke, door magnetic detector, water leakage, air conditioning running state; NetEco system provides unified and centralized management of all resources; Smart interaction between L1 and L2.
- Automatic processing of unexpected events to improve data center availability; No need for on-site management, improving management efficiency and reducing operating costs.

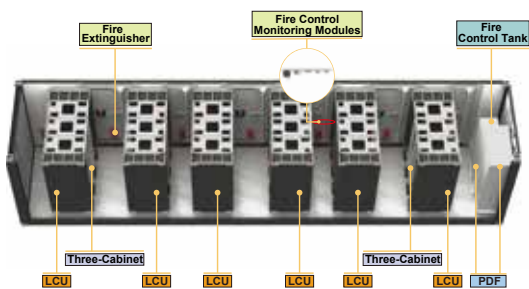
IDS1000-C Series
Cluster Container Data Center Solution



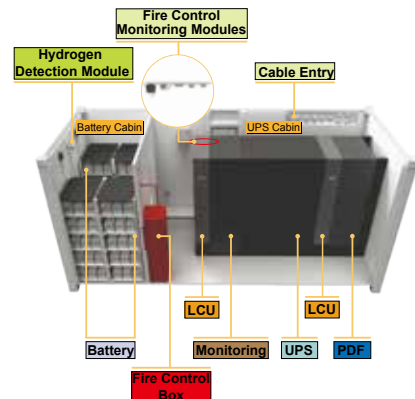


Huawei IDS1000-C series container data center solution includes independent IT, power and cooling containers for standard configuration. Meanwhile, control container and 20ft-power container are optional.

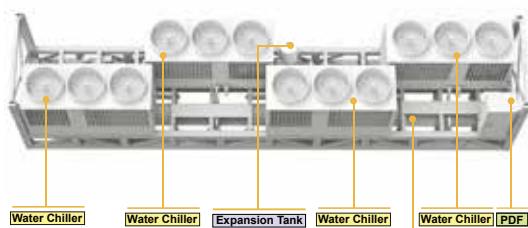
IT Equipment container



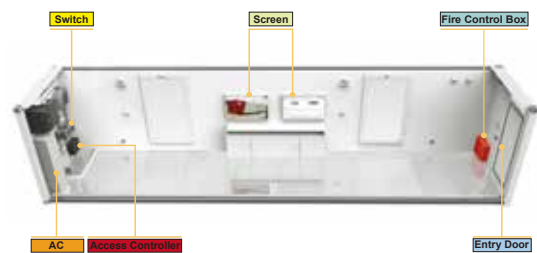
Power container (20ft)



Cooling container



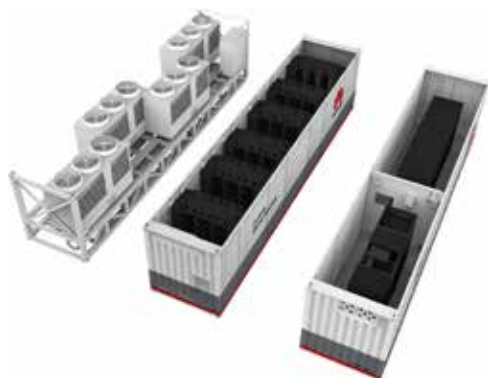
Center control container





Huawei IDS1000-C solution provides 3 typical configurations, and supports flexible combination of different modules to meet customers' diverse requirements. Also, a customized solution is available.

Standard solution



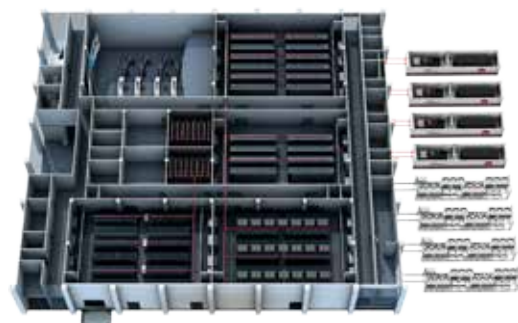
Equipment container	1
20'power container	2
Cooling container	1
Control container	0
Rack quantity	18
Tier level	III
Application Scenarios	Education/hospital/government cloud computing, disaster recovery

2N Cooling+power supply, Multi-containers

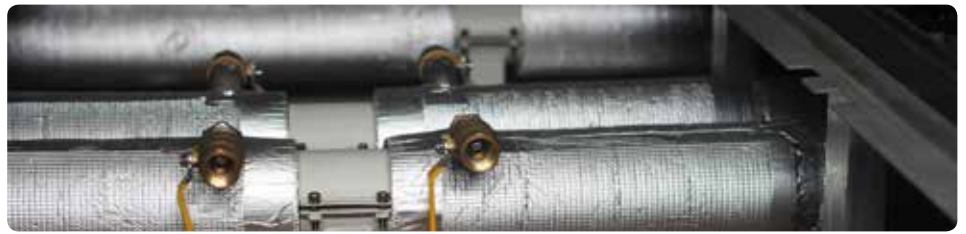


IT equipment container	$1 < N \leq 5$
20'power container	2
Cooling container	2
Control container	1
Rack quantity	18-108
Tier Level	III+
Application Scenarios	High reliability, financial industry, IDC hosting

Combination of power and cooling containers with building



IT equipment container	0
20'power container	2N
Cooling container	N
Control container	0
Rack quantity	-
Tier level	III / III+
Application Scenarios	Provide independent power and cooling for building



IDS1000-C Series Specifications

	Features	
Power	Incoming power	Two mains or one main power plus one generator
	Power density per rack	3kW~15kW
	UPS capacity	40kVA ~ 400kVA
	UPS redundancy	2N or N+X
	BAT backup time	10mins
Cooling	Technology	Outdoor unit: Four 100kW chiller for 3+1 backup or three 100kW chiller for 2+1 backup Indoor unit: twelve 20kW/30kW unit for 9+3 backup
	Containment	Hot and cold aisle isolation
	Total Cooling Capacity	300kW
	Indoor unit capacity	20kW/30kW
	Refrigerant	R410A/R134a
	Fan type	EC Fans
	Compressor	Scroll compressor
Design operation parameters	Humidity	Build-in humidification function
	Cold Aisle Temperature	18-27°C
Environmental requirements	Humidity Range	20% to 80% relative humidity
	Operation temperature	-33°C~45°C*
	Operation humidity	10% to 90% relative humidity
Fire control	Altitude	<3000m
	Type	Automatic fire detection & suppression system c/w emergency release function
	Alarm	Fully monitored automated detection, supporting audible and visual alarm
	Detection	Addressable analogue system c/w double knock condition to initiate gas release
	Extinguishant	Heptafluoropropane or NOVEC1230
Security	Fire Rating	50mins
	Access Control	Card access system (RFID)
Management	IP Camera	Accessible via the integrated management system
	Management function	Monitors internal temperature, the humidity control system, the fire detection & suppression system, the access control system, the air-conditioner system Supporting E-mail, SNMP & SMS monitoring Interoperable with all backup power supply systems via programmable dry contacts (Generators)
Structure	Main Frame	Power container: 20' ISO shipping container IT container: 40' ISO shipping container Cooling container: 40' open-structure shipping container
	IT Rack	18 IT racks (per IT container), 810U
	Rack Installation Space	Support 19" standard equipment installation
	Insulation	Polyurethane foam insulation (top-75mm, side-40mm)
	Cabling	Power cables and data cables are separated, above the ceiling
	Pipes design	AC pipes are under the floor
	Waterproof and dustproof	IP56
Size	IT container (L*W*H)	12192*2438*2896 (mm)
	Cooling container (L*W*H)	12192*2438*2896 (mm)
	Power container (L*W*H)	6058 *2438*2896 (mm)

* 45°C to 55°C tropical conditions should use high temperature air conditioner; -40°C to -33°C conditions should use low temperature air conditioner, some parameters will change.



IDS1000-A Series

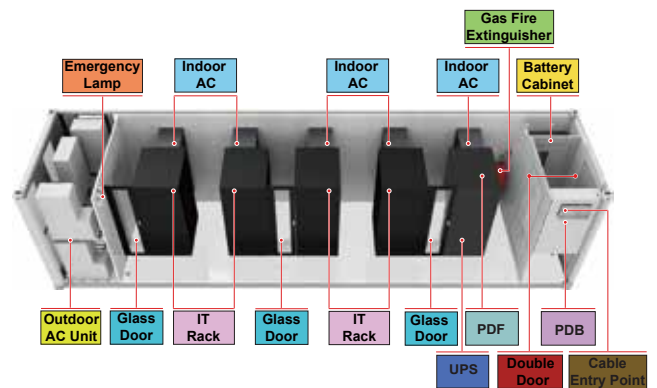
All-in-one Container Data Center Solution



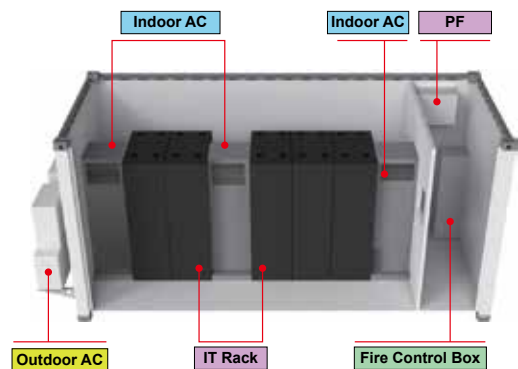
Huawei IDS1000-A All-in-one container data center is the one-stop infrastructure solution with integrating of power, cooling, cabinet, fire-control, cabling, monitoring, grounding and lightning system. It includes two standard products of 40ft and 20ft.

Huawei IDS1000-A solution can fully support T1 and T3 condition. 4-10 racks can be customized according to different requirements.

IDS1000-AM 40' container data center



IDS1000-AS 20' container data center



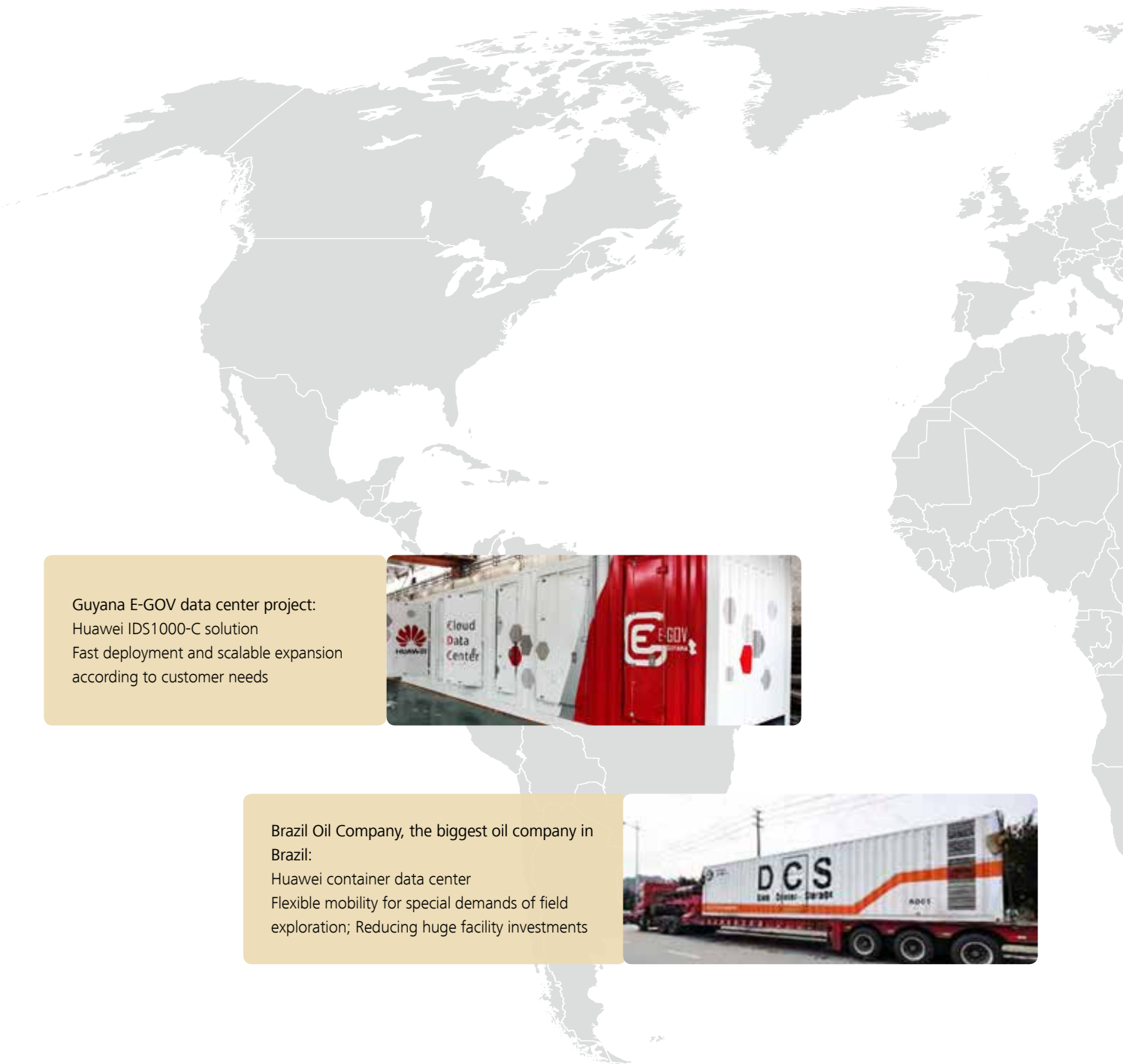


	Sub Feature	IDS1000-AM	IDS1000-AS
Power	Incoming power	Dual (N+1) surge protected inputs	
	Power density per rack	5kW	
	UPS capacity	60kVA	40kVA
	UPS redundancy	3+1 redundancy	2+1 redundancy
	BAT backup time	15mins	10mins
Cooling	Technology	DX (Direct Expansion) type air-conditioner units	
	Containment	Hot and cold aisle isolation	
	Cooling capacity	12.5kW per unit, 4+1 redundancy	12.5kW per unit, 2+1 redundancy
	Refrigerant	R22/R407c	
	Compressor	Scroll compressor	
	Humidity	Build-in humidification function	
Design operation parameters	Cold Aisle temperature	18-27°C	
	Humidity range	20% to 80% relative humidity	
Environmental requirements	Operation temperature	-33°C~45°C*	
	Operation humidity	10% to 90% relative humidity	
	Altitude	<3000m	
Fire control	Type	Automatic fire detection & suppression system c/w emergency release function	
	Alarm	Fully monitored automated detection, supporting audible and visual alarm	
	Detection	Addressable analogue system c/w double knock condition to initiate gas release	
	Extinguishant	Heptafluoropropane	
	Fire rating	50mins	
Security	Access control	Card access system (RFID)	
	IP Camera	Accessible via the integrated management system	
Management	Management function	Monitors internal temperature, the humidity control system, the fire detection & suppression system, the access control system, the air-conditioner system	
		Supporting E-mail, SNMP & SMS monitoring	
		Interoperable with all backup power supply systems via programmable dry contacts (Generators)	
Structure	Main Frame	40' standard ISO shipping container	20' standard ISO shipping container
	IT rack	8 IT racks, 360U	4 racks, 180U
	Rack installation space	Support 19" standard equipment installation	
	Insulation	Polyurethane foam insulation (top-75mm, side-40mm)	
	Cabling	Power cables and data cables are separated, above the ceiling	
	Pipes design	AC pipes are under the floor	
	Protection level	IP56	
Size	Dimensions (L*W*H)	12192*2438*2896(mm)	6058*2438*2896(mm)

* 45°C to 55°C tropical conditions should use high temperature air conditioner.



The Huawei IDS1000 series of container data center solutions have been successfully deployed in the Guatemala MIC cloud IDC, the University of Lomé in Togo, a Guyana government E-Gov project, Ghana E-Gov project, Venezuela CANTV, a Brazilian oil company, Mackenzie University in Brazil, China Mobile northern base, Huawei K3 desktop cloud project, etc.



Guyana E-GOV data center project:
Huawei IDS1000-C solution
Fast deployment and scalable expansion
according to customer needs

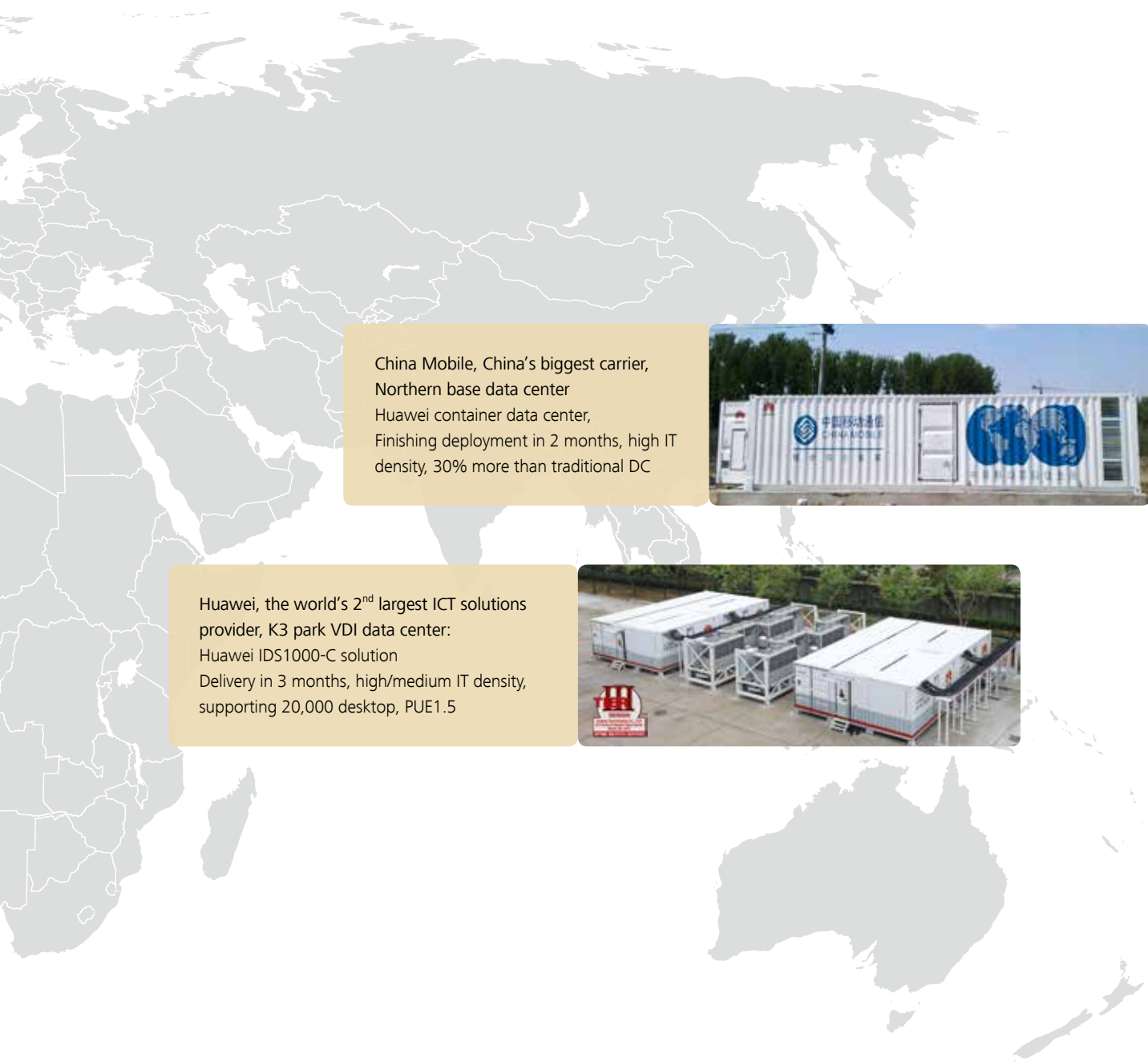


Brazil Oil Company, the biggest oil company in Brazil:
Huawei container data center
Flexible mobility for special demands of field exploration; Reducing huge facility investments





10 + years of experience in data center services, more than 330 + data centers worldwide, 70 + cloud data centers



China Mobile, China's biggest carrier,
Northern base data center
Huawei container data center,
Finishing deployment in 2 months, high IT
density, 30% more than traditional DC



Huawei, the world's 2nd largest ICT solutions
provider, K3 park VDI data center:
Huawei IDS1000-C solution
Delivery in 3 months, high/medium IT density,
supporting 20,000 desktop, PUE1.5





About Network Energy of Huawei

Based on the deep understanding about telecommunication in a long term of 20 years, and the construction and maintenance experience of more than 1.5 million global telecommunication sites, Huawei network energy product line adheres the '4S' concepts of 'Simple, Scalable, Smart, Saving', and commits to providing customers the world's leading network energy solutions.

The network energy product line has two main businesses of site energy and data center energy. We are making stable, green energy and infrastructure for customers in ICT field, building a solid foundation for excellent networks, protecting customers' long term investment on energy and infrastructure.

About Huawei

Huawei is a leading global ICT solutions provider. Through our dedication to customer-centric innovation and strong cooperation, we have established end-to-end capabilities and strengths across the carrier networks, enterprise, consumer, and cloud computing fields. We are committed to creating maximum value for telecom carriers, enterprises and consumers by providing competitive ICT solutions and services. Our products and solutions have been deployed in over 140 countries, serving more than one third of the world's population.

Copyright © Huawei Technologies Co., Ltd. 2013. All rights reserved.

General Disclaimer

The information in this document may contain predictive statements including, without limitation, statements regarding the future financial and operating results, future product portfolio, new technology, etc. There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied in the predictive statements. Therefore, such information is provided for reference purpose only and constitutes neither an offer nor an acceptance. Huawei may change the information at any time without notice.