



MADE IN ITALY

# LEADER IN HYBRID POWER FOR TELECOM

THE PIONEERS OF HYBRID POWER SOLUTIONS  
12 YEARS OF WORLDWIDE PROVEN EXPERIENCE

**Ascot**   
Energy Everywhere

# WE ARE PROUD TO SERVE THE TELECOM INDUSTRY WORLDWIDE

## AFRICA

GUINEA CONAKRY  
KENYA  
MADAGASCAR  
MAURITANIA  
MOROCCO  
MOZAMBIQUE  
NIGERIA  
SENEGAL  
SOUTH AFRICA  
SOUTH SUDAN  
SUDAN  
TANZANIA

## ASIA & OCEANIA

BANGLADESH  
CAMBODIA  
INDONESIA  
MYANMAR  
PAPUA NEW GUINEA  
PHILIPPINES  
SRI LANKA

## AMERICA

HAITI  
PERU  
USA

## MIDDLE EAST

IRAQ  
JORDAN  
KSA  
QATAR

## EUROPE

GREECE  
ITALY  
ROMANIA



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**Ascot Industrial srl is certified to**  
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**UNI EN ISO 14001:2015**  
**OHSAS 18001:2007**



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TowerXchange

**Industry Awards 2016**

Green initiative of the year

Presented to: **Ascot for IHS**

Date: 19.10.2016

Awarded by: TowerXchange

Judges comments: In a project of unprecedented scale in Africa, Ascot have replaced DGs running 24/7 at 2400 IHS sites with solar hybrid units yielding a 76% carbon footprint

**Green Industry Awards**  
for the supply of:

*"2400 Solar Hybrid HPU's  
for IHS Nigeria, yielding a  
76% reduction of carbon  
emissions".*

MADE IN ITALY

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# HYBRID POWER

## WORLDWIDE INSTALLATIONS

This book aims to show you the success of hybrid  
power generators installed worldwide at telecom sites.

35 years experience in design and manufacture of power  
solutions and an unstoppable research for the most efficient  
and clean products has given birth to many successful  
installations and satisfied clients.

Hybrid technology holds no more secrets for Ascot:  
those who trust in us are now our strength and motivation to  
go further everyday.







## “The **Ascot Hybrid Power Unit** is a Generating set that gives power even when the engine is switched OFF”

<< During a routine visit in early 2007, one of my clients who was involved in a massive telecom operation in Africa expressed the need to reduce fuel consumption, which was drastically affecting OPEX >>



2003

### First All in one Generator

In 2003 Ascot realised first all-in-one generator (with integrated control panel, ATS, lube oil system, automatic dummy load, and fuel tank).



2004

### First Ascot Remote Management System

In 2004, with Ascot Remote control, telecom operators made a substantial reduction in capex and opex costs.



2007

### Birth of the first Hybrid System for Telecom

Ascot has launched in the Sudanese desert, the first-ever Hybrid Power Unit in the Telecom history. Still in operation today.



2010

### Birth of first Hybrid Control-Logic

Ascot's new Hybrid Power System can reduce Genset running hours up to 90% and fuel consumption up to 100% (merging Solar and Battery together).



2018

### Birth of first Green-Friendly Hybrid

Ascot Group designs and realizes Power Plants (hybrid, diesel or natural gas), Wastewater Plants and Water Treatment Plants (for irrigation and drinking water).



*BEFORE* **HPU**  
**24/7 engine run**



*WITH HPU*  
**4 hrs/day engine run**  
**68% fuel savings**

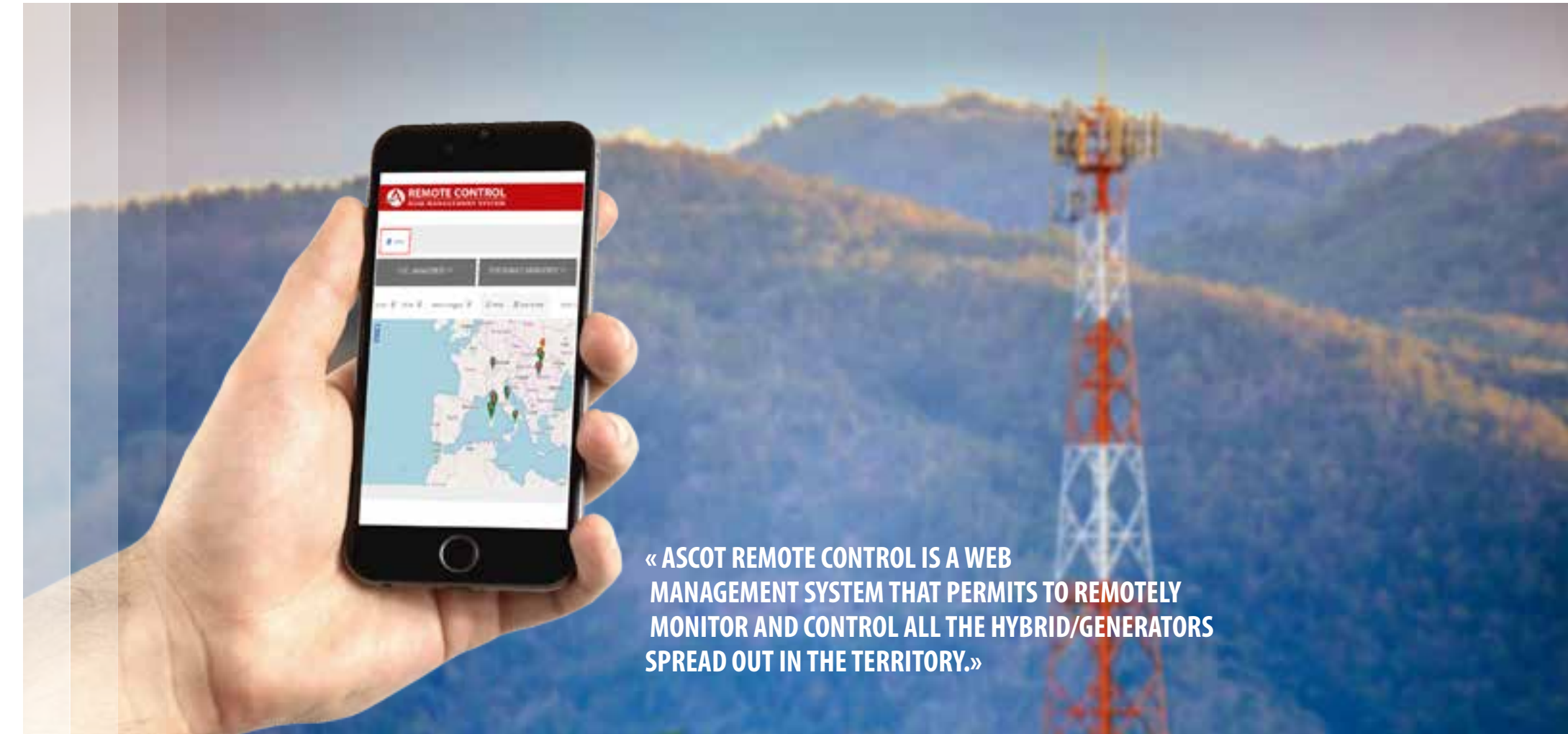


*WITH HPU-X*  
**Up to 99,9% fuel savings with PV plant**

“The first ASCOT hybrid was implemented in Sudan, where it was swapped for an existing dual generator system and achieving a 68% of fuel saving. (2007)



## A glance to the Telecom power r-evolution



« ASCOT REMOTE CONTROL IS A WEB MANAGEMENT SYSTEM THAT PERMITS TO REMOTELY MONITOR AND CONTROL ALL THE HYBRID/GENERATORS SPREAD OUT IN THE TERRITORY.»



## Real time Opex Control for hybrid generators

Web based management system with m2m technology



Think about  
Innovation



  
MADE IN ITALY

# Think about Innovation!

Innovation is the key factor for  
ASCOT's successes.  
Today our Hybrid Power System  
represents the leading technology  
for all Telecom industry needs.

**Ascot**   
Energy Everywhere



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# HAITI

## HYBRID WORLDWIDE

Year | 2017

Haiti |

Client

**Digicel**







# HAITI

HYBRID WORLDWIDE

DIGICEL has a longterm partnership with Ascot. They have chosen HPU in order to reduce fuel consumption and have a reliable power solution for their remote telecom sites.



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# NEVADA

## HYBRID WORLDWIDE



Year | 2016

Nevada | Challaghan

Client







## NEVADA

### HYBRID WORLDWIDE

Comnet has chosen Ascot's innovative and off-grid hybrid power generator. Installing the HPU LPG range in remote areas, the greener and reliable power solution has permitted to achieve great savings.



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# NEVADA

## HYBRID WORLDWIDE



Year | 2016

Nevada | Horse canyon

Client







# NEVADA

HYBRID WORLDWIDE

Ascot's Hybrid has also ventured to the western part of America, in Nevada State. The remote and off-grid telecom site was located in a great expanse of desert. For this reason the suitable solution was the HPU equipped with GSM and CDMA systems for the remote monitoring.



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# PERU

## HYBRID WORLDWIDE

Year | 2013

Peru | Las delicias

Client



LATIN  
AMERICA

PERU



Ascot  
Energy Solutions





## PERU

HYBRID WORLDWIDE

The Ascot Hybrid has also ventured to South America. Telefonica's remote and off grid telecom site in Chiclayo is powered by a DC HPU.



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# KENYA

## HYBRID WORLDWIDE

Year | 2013

Kenya | Nairobi

Client







# KENYA

HYBRID WORLDWIDE

In line with world trends,  
Kenya is committed to  
becoming a greener country.  
Safaricom is contributing to  
this by installing Ascot Hybrid  
Solutions at their Telecom sites.



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# MOROCCO

## HYBRID WORLDWIDE

Year | 2015

Morocco | Jbal Ouziane

Client







# MOROCCO

HYBRID WORLDWIDE

Maroc Telecom chose to go green by installing the hybrid power solution with lithium batteries and solar panels, reducing both engine running hours and pollutant emissions.





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# MAURITANIA

## HYBRID WORLDWIDE

Year | 2012

Mauritania | Kankoussa

Client







# MAURITANIA

HYBRID WORLDWIDE

**29 telecom sites on air  
in less than 20 days.**

The Ascot team, in cooperation with Chinguitel, has “hybridized” Mauritania, installing three Hpu’s per day during a two-week mission. Each one is currently operating and achieving a fuel saving of 68%.



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# MOZAMBIQUE

## HYBRID WORLDWIDE

Year | 2013

Mozambique | Mugeba

Client



Telecomunicações de Moçambique (TDM)







# MOZAMBIQUE

HYBRID WORLDWIDE

The TDM Group includes mCel, Mozambique's first mobile operator. In order to provide a more efficient service in a competitive market, many Telecom Operators are going green by choosing Ascot.



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# NIGERIA

## HYBRID WORLDWIDE

Year | 2015

Nigeria | Lagos

Client







# NIGERIA

HYBRID WORLDWIDE

IHS Group, is the biggest tower operator in Africa, has selected Ascot as supplier of reliable and flexible hybrid power solution for multi-tenants sites.



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# SOUTH AFRICA

## HYBRID WORLDWIDE

Year | 2011

South Africa | Marapong

Client







# SOUTH AFRICA

HYBRID WORLDWIDE

Ascot is in accordance with Vodafone's sustainability goal of reducing global CO<sub>2</sub> emissions by 50% by the year 2020. The DC HPU is helping to achieve this goal.



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# SOUTH SUDAN

## HYBRID WORLDWIDE

Year | 2013

South Sudan | Juba

Client







# SOUTH SUDAN

HYBRID WORLDWIDE

In 2007, Zain Group shared with Ascot its wish to save Opex by having a Generator that would be able to supply energy even when switched off. This led to the creation of the DC HPU.



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# SENEGAL

## HYBRID WORLDWIDE

Year | 2014

Senegal | Paffa

Client



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## SENEGAL

HYBRID WORLDWIDE

In Senegal Espresso Group is one of the main Telecom Operators. In June 2010 Espresso Senegal launched a GSM network, providing 3G services to the people of Senegal for the very first time. They decided to switch up to the greener and reliable power solution in 2011 in order to drastically reduce their TCO.



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# TANZANIA

## HYBRID WORLDWIDE

Year | 2013

Tanzania | Mbeya

Client







# TANZANIA

HYBRID WORLDWIDE

A challenge along the whole Tanzanian territory: Ascot & Vodacom contribute to respecting the environment by installing Hybrid solutions at Telecom sites.



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# IRAQ

## HYBRID WORLDWIDE

Year | 2010

Iraq | Sulaymaniyah

Client







# IRAQ

HYBRID WORLDWIDE

The Iraqi adventure started for Ascot in the year 1998 with the Oil for Food program. Today the refineries of Baiji, Kirkuk, Dora, Bashra are powered by Ascot as well as the most important telecom operators such as ASIACELL and IRAQI TELECOM.





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# JORDAN

## HYBRID WORLDWIDE

Year | 2013

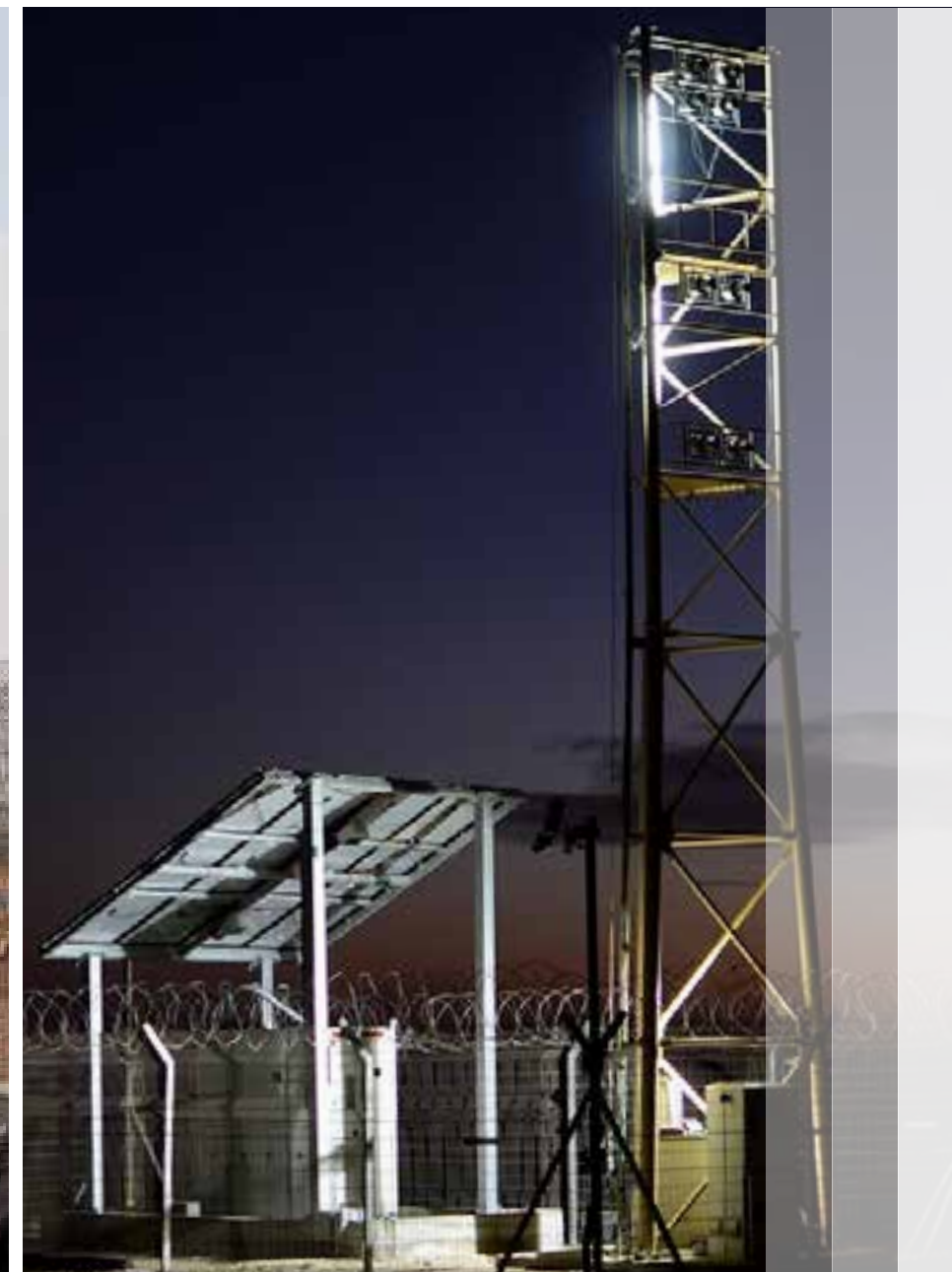
## JORDAN

DC HPU Hybrid Power Unit

**DC HPU2\_SUN+**







## JORDAN

HYBRID WORLDWIDE

Installed in countries where the sun shines all day long, the ASCOT DC HPU, combined with Solar Panels, are able to achieve up to 92% in fuel savings.



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# QATAR

## HYBRID WORLDWIDE

Year | 2016

Qatar | Doha

Client







## QATAR

HYBRID WORLDWIDE

Vodafone chose Ascot for the successful installation of HPU 4S that is currently operating with a drastic OPEX reduction.



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# SAUDI ARABIA

## HYBRID WORLDWIDE



Year | 2011

Saudi Arabia | Umlaji Mountain







# SAUDI ARABIA

## HYBRID WORLDWIDE

The first Hybrid Cow assembled in Saudi Arabia: **A Hybrid Solution for Rapid Deployment sites.**



STC has a longterm partnership with Ascot. They have decided to trust Hybrid solution for their Remote Telecom Sites in order to have a plug & play solution.





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# CAMBODIA

## HYBRID WORLDWIDE

Year | 2013

Cambodia | Preykhlotclot Village

Client



ASIA PACIFIC







# CAMBODIA

HYBRID WORLDWIDE

The ASCOT ASIA PACIFIC business unit, based in Malaysia, directly follows the Cambodian market, along with the APAC countries.



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# INDONESIA

HYBRID WORLDWIDE

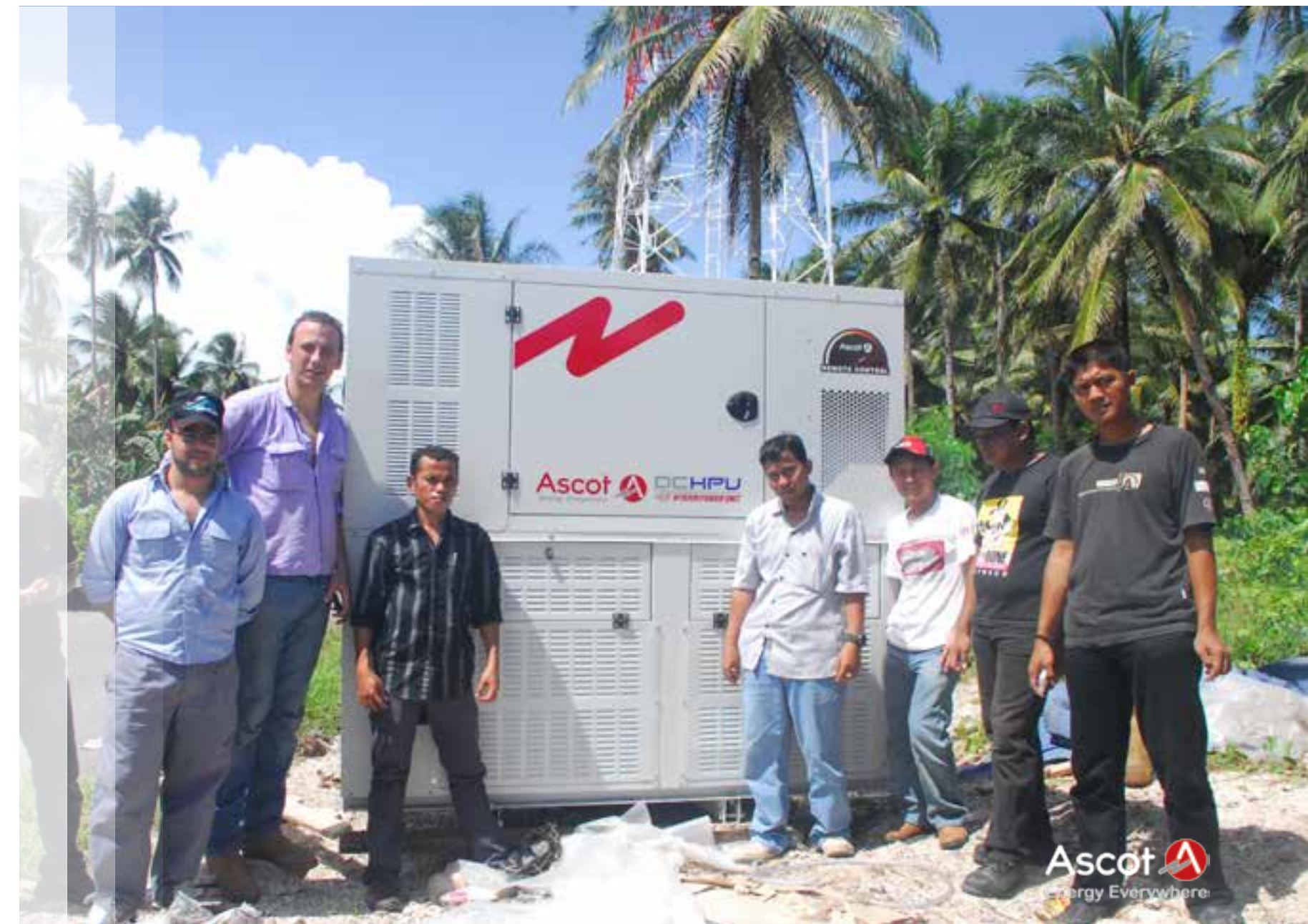
Year | 2010

Indonesia | Sepaamaai

Client



ASIA PACIFIC







# INDONESIA

HYBRID WORLDWIDE

APAC is one of the best examples of the positive impact of choosing Ascot and the hybrid power solutions.



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# MYANMAR

## HYBRID WORLDWIDE

Year | 2017

Myanmar | Yangon

Client







# MYANMAR

HYBRID WORLDWIDE

NTS has chosen to install 55 units of Ascot's HPU 2 in its network. The units are installed in remote areas and are remotely managed.





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# PAPUA NEW GUINEA

## HYBRID WORLDWIDE

Year | 2015

Papua New Guinea | Kemabolo

Client







# PAPUA NEW GUINEA

HYBRID WORLDWIDE

Thanks to the hybrid power solution, BMobile has achieved reliability in telecom sites located in remote areas. This has reduced the number of visits of ordinary and extraordinary maintenance.



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# PHILIPPINES

## HYBRID WORLDWIDE

Year | 2012

Philippines | El Nido Palawan

Client



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## HYBRID WORLDWIDE

On-site Assembly instead of assembling in factory. With the installation of DC HPU (semi-knock down version), Globe overcame the challenge to reach remote telecom sites with limited accessibility due to the lack of road infrastructure.





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# SRI LANKA

## HYBRID WORLDWIDE

Year | 2013

Sri Lanka | Donbemada

Client



ASIA PACIFIC







# SRI LANKA

HYBRID WORLDWIDE

Etisalat Sri Lanka chose the new DC HPU to reduce drastically their operating costs. The Units installed are currently on air and remotely managed.



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# ITALY

## HYBRID WORLDWIDE

Year | 2015

Italy | Terraseo

Client





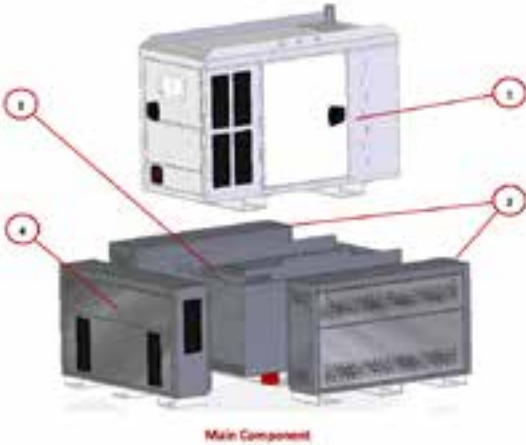


# ITALY

## HYBRID WORLDWIDE

Vodafone Italy has chosen Ascot for its Telecom site located in a remote area of Sardinia. A full optional solution has been successfully installed and is currently operating with great savings to the satisfaction of Vodafone Group.

HPU2 LEGO VERSION



- 1 - DC Generator
- 2 - Battery Bank
- 3 - Fuel Tank
- 4 - DC Distribution Panel





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# ITALY

## HYBRID WORLDWIDE



Year | 2016

Italy | Sgurgola Tav

Client







# ITALY

## HYBRID WORLDWIDE

A full optional HPU solution has been successfully installed in off-grid scenario. It is currently operating in a remote areas with great savings.





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# ROMANIA

## HYBRID WORLDWIDE

Year | 2017

Romania | Tatu

Client







## ROMANIA

HYBRID WORLDWIDE

Vodafone preferred Ascot's power solution for its mobile telecom sites located in remote areas. The HPU was the perfect solution to guarantee low fuel consumption and less maintenance.

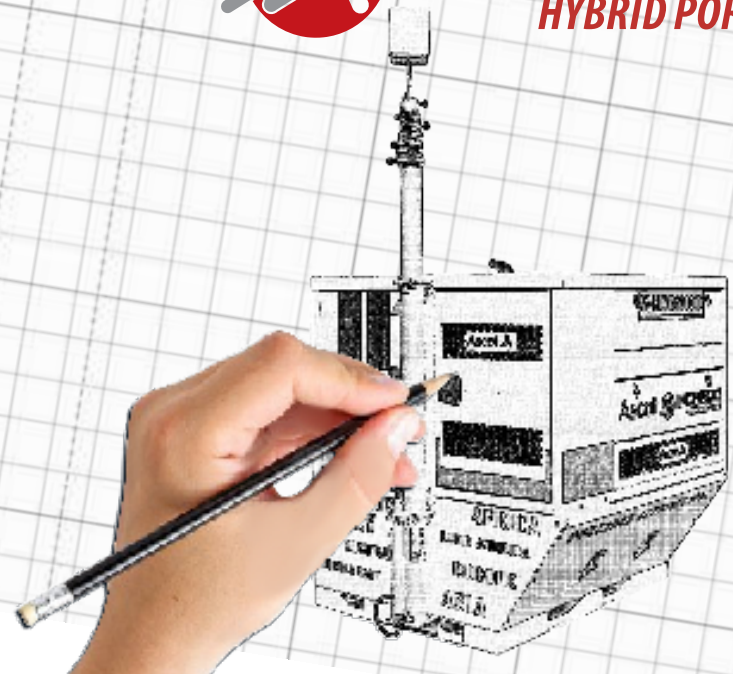


# RE-DESIGN THE WORLD

Innovation and progress has to be "one step ahead".

A mix of experience and intuition, supported by a strong presence in the market, permits our R&D team to re-design the world.

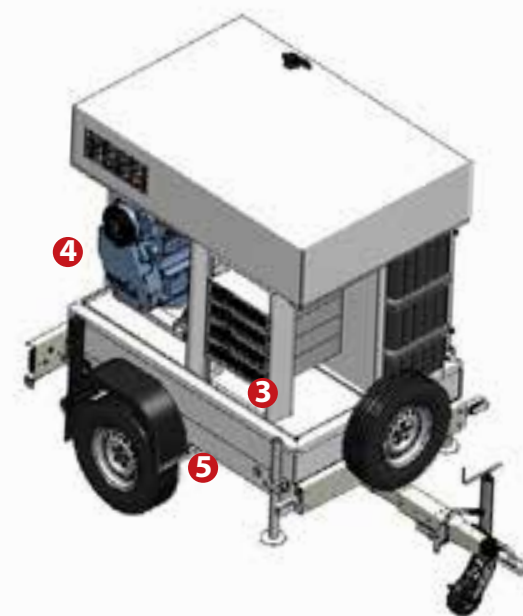
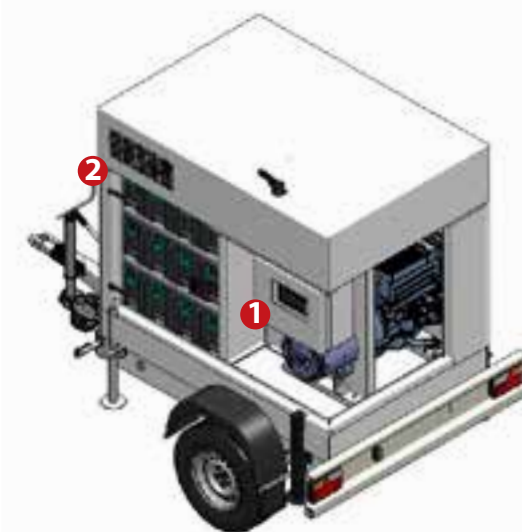
Ascot cannot be copied because our products are made by men of passion, and built in the Mediterranean where the sun and love contribute to creation of our unique solutions.



## ON WHEEL HYBRID TELECOM SITE

- ① Controller
- ② Lithium batteries

- ③ Rack 19" 20 U
- ④ DC Generator
- ⑤ Integrated Fuel tank



- A Telecom equipment in 19" rack 20 U
- B Free cooling



# THE LIGHTEST AND SMALLEST DC GENERATOR

## FEATURES

Small Footprint 0.6 sqm  
Weight less than 380 kg

## APPLICATIONS

On Grid Urban site instead of stand by generator  
Off Grid Temporary Site



**We drive innovations**  
we design power solutions  
to keep up with technology  
and the customers needs



# WHAT'S NEXT?

## THE NEW HPU-X WITH THE LEADING HYBRID TECHNOLOGY IN THE TELECOM SECTOR

The New HPU-X is a high efficiency hybrid generator designed with greater performance thanks to ASCOT's well known experience as pioneers of hybrid solutions in the telecommunications sector.

The HPU-X with variable speed engine and longlife deep cycle batteries guarantee fuel consumption savings up to 90% compared to a traditional genset.

The Integrated Hybrid Logic is the core of the hybrid generator and it is 100% ASCOT. This technology centralises, via the Ascot controller, the management of all the components including any external renewable energy source providing the best power solution in terms of savings renewable energy source providing the best efficiencies in terms of savings.



### > More is Less <

#### Why HPU-X is more >

- > PERFORMANCE
- > EFFICIENCY
- > REAL TIME MANAGEMENT
- > ACCESSIBLE
- > SILENCED
- > SECURITY

#### Why HPU-X is less <

- < DIMENSIONS
- < OPEX
- < WEIGHT
- < MAINTENANCE
- < PAYBACK (2 YEARS)
- < BATTERY CONSUMPTION





# WORLDWIDE PRESENCE

IN OVER 38 COUNTRIES

- ASCOT HEADQUARTERS  
Gela, Italy
- ASCOT TECHNOLOGIES  
Milan, Italy
- 1 CASA ASCOT USA
- 2 CASA ASCOT ARABIA
- 3 CASA ASCOT ASIA
- 4 CASA ASCOT NIGERIA
- 5 CASA ASCOT SUDAN
- 6 CASA ASCOT UAE

38 Countries  
34.000 Generators  
5.000 Hybrid Generators



# OUR CLIENTS

SOMETHING WE ARE PROUD OF







**“ WE BRING ENERGY EVERYWHERE.  
ENERGY IS OUR PASSION, PASSION IS OUR ENERGY. ”**



Think about  
Innovation



  
MADE IN ITALY

Follow Us!



[www.ascotinternational.com](http://www.ascotinternational.com)

Ascot   
Energy Everywhere



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