



# ORMAZABAL

Focus on Medium Voltage

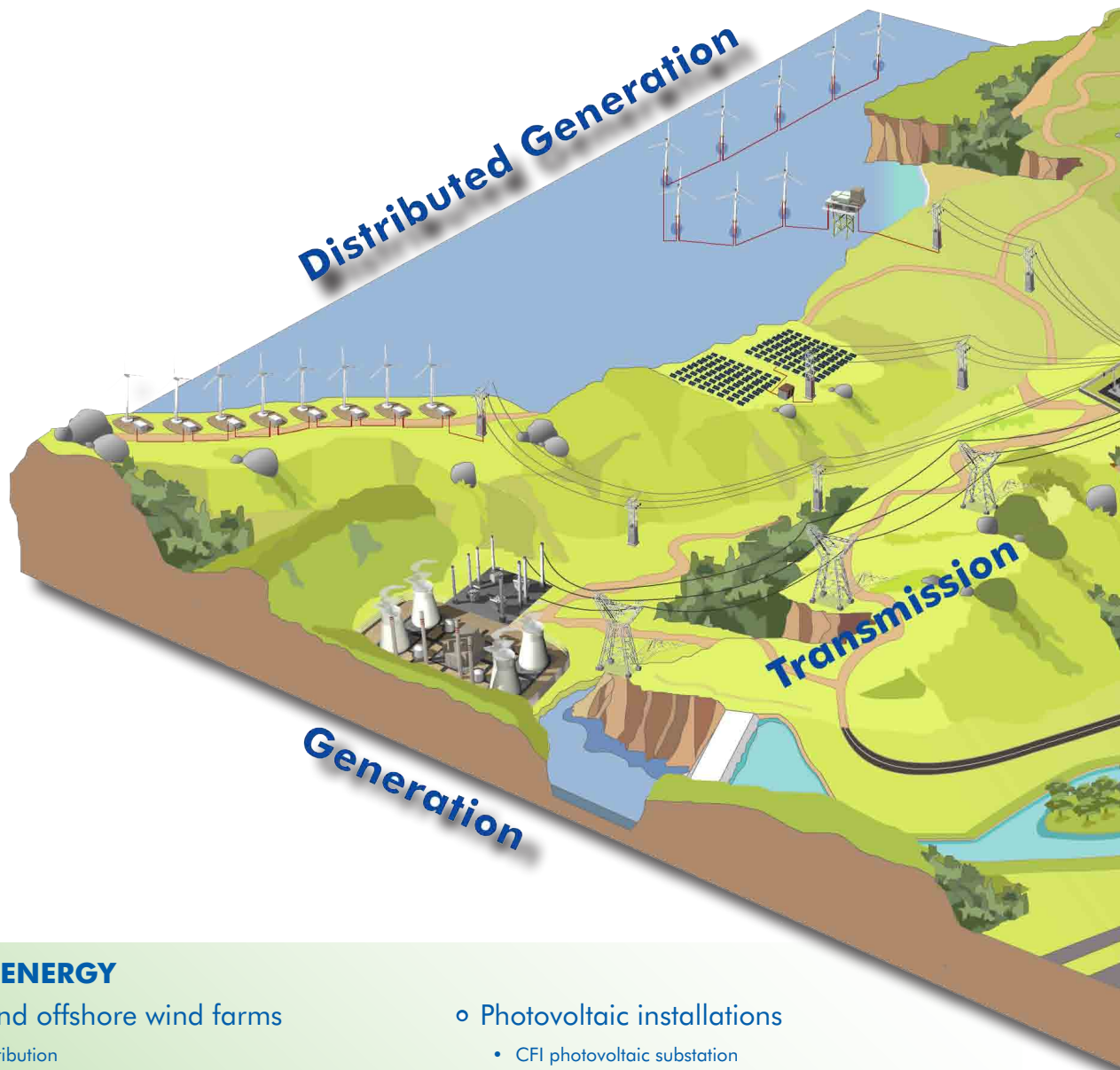
## PRODUCT OVERVIEW

2011



## → SOLUTIONS FOR EFFICIENT ENERGY DISTRIBUTION

- Primary distribution switchgear
- Secondary distribution switchgear
- Automation, protection, telemanagement and communication
- Distribution transformers
- Low Voltage boards
- Transformer substations



### RENEWABLE ENERGY

- Onshore and offshore wind farms
  - Primary distribution
  - Secondary distribution
  - Protection, automation and communication
  - Transformers
  - Low voltage boards
  - Transformer substations
- Photovoltaic installations
  - CFI photovoltaic substation
  - Secondary distribution
  - Protection, automation and communication
  - Transformers
  - Low voltage boards
  - Transformer substations



## PUBLIC DISTRIBUTION

### ◦ Substations

- Primary distribution
- Protection, automation and communication

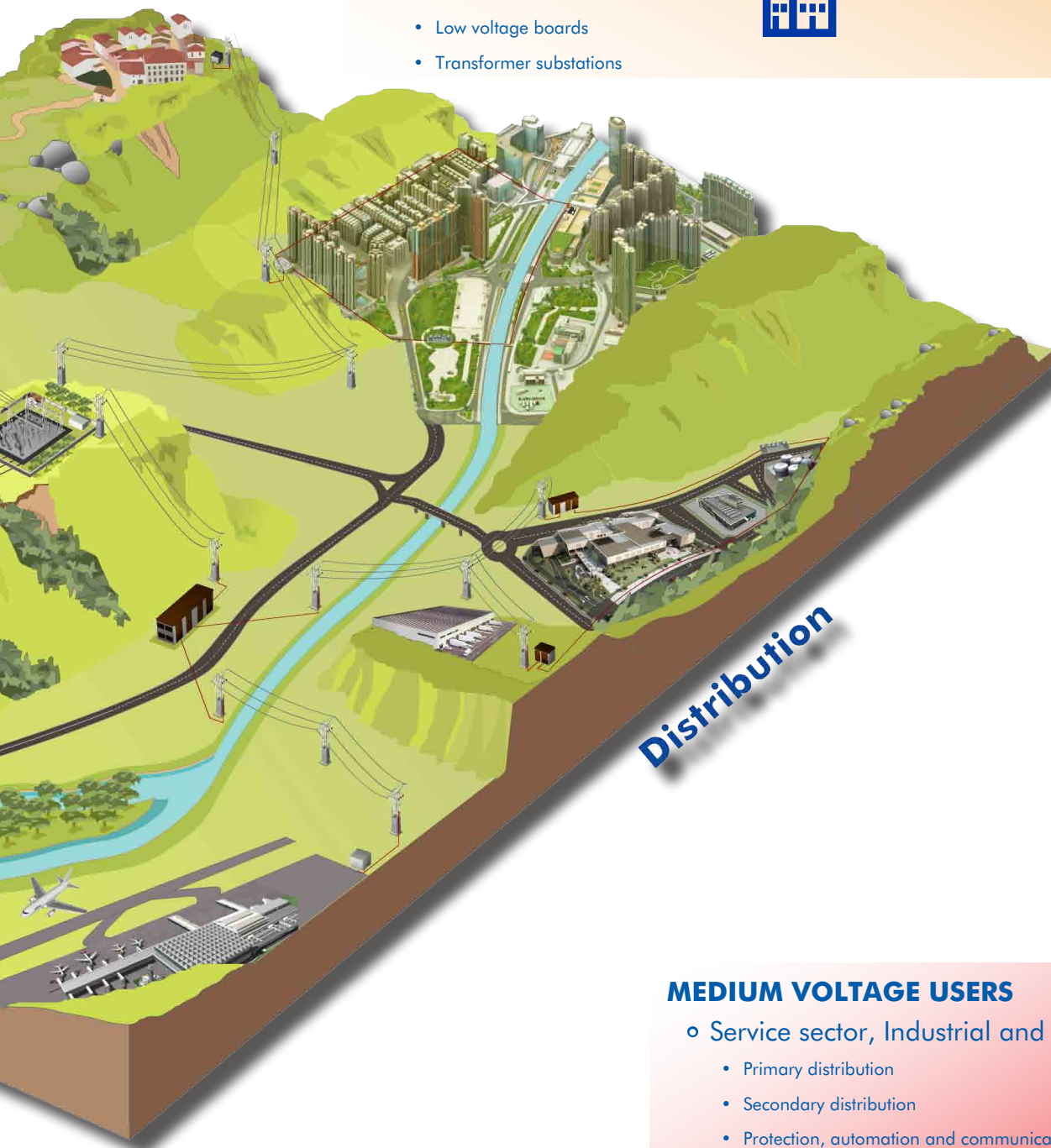
### ◦ Urban areas

- Secondary distribution
- Protection, automation, telemanagement and communication
- Transformers
- Low voltage boards
- Transformer substations



### ◦ Rural areas

- Secondary distribution
- Transformers
- Low voltage boards
- Transformer substations



## MEDIUM VOLTAGE USERS

### ◦ Service sector, Industrial and Infrastructures

- Primary distribution
- Secondary distribution
- Protection, automation and communication
- Transformers
- Low voltage boards
- Transformer substations



PRIMARY DISTRIBUTION										
Product	Medium Voltage Cubicles					Vacuum Circuit-Breaker			Mobile walk-in type substation for CPG.0 cubicles	
Standards	IEC									-
Insulation	Gas				Air		Vacuum			-
Busbar	Single-Double		Single			-		-		-
$U_r$ (max.)	24 kV	36 kV	24 kV	36 kV	17.5 kV			17.5 kV	24 kV	-
$I_r$ (max.)	2000 A		2500 A	1250 A	2500 A			2500 A	1250 A	-
$I_k$	31.5 kA		25 kA		31.5 kA			31.5 kA	25 kA	-
Name	<b>CPG.1</b>		<b>CPG.0</b>		<b>CPA-AMC</b>		<b>CiBOR</b>	<b>NVL</b>		<b>ORMA-CONTAINER</b>
Applications	WSPi		WSPi		WSPi		WSPi	WSPi		WP

KEY: AREAS OF IMPLEMENTATION		
Renewable energy:	WIND	W
	SOLAR	S
Public distribution:	SUBSTATIONS (PRIMARY)	P
	URBAN AREAS	U
	RURAL AREAS	R
Medium Voltage Users:	SERVICE SECTOR, INDUSTRIAL AND INFRASTRUCTURES	I

## SECONDARY DISTRIBUTION

Product	Medium Voltage Cubicles						
Standards	IEC / HN / SANS / IEEE						
Insulation	Fully gas-insulated				Air		
Configuration	Modular and Compact (RMU)	Compact (RMU)	Modular	Modular and Compact (RMU)	Modular		
$U_r$ (max.)	12 kV (SANS) 24 kV (IEC) 24 kV (HN) 27 kV (IEEE)	24 kV (IEC)		36 kV (IEC) 38 kV (IEEE) 40,5 kV (IEC)	24 kV (IEC)		
$I_r$ (max.)	630 A		630 / 1250 A	630 A	630 A		
$I_k$	20 kA						
Name	<b>CGMCOSMOS</b>	<b>GA</b>	<b>GAE</b>	<b>CGM.3</b>	<b>EA</b>		
Applications							
<b>ORMACONTAINER</b> Mobile walk-in type substation for CGMCOSMOS & CGM.3 cubicles		<b>FBOX / GE1K / KVS</b> Cable distribution box (China)		<b>KL / T / DES</b> Medium Voltage Switch			
Applications		Insulation	Air	Standards	IEC		
				Insulation	Air		
				$U_r$ (max.)	12 kV	$U_r$ (max.)	24 kV
						$I_r$ (max.)	630 A
				Applications		$I_k$	20 kA
				Applications			

## DISTRIBUTION TRANSFORMERS

Product	Dielectric liquid immersed hermetically sealed completely filled transformers
Standards	IEC / HN
Power	25-2500 kVA
$U_r$ (max.)	24 / 36 kV
Losses	$D_0C_k$ (AB') / $C_0C_k$ (AC') / $C_0B_k$ (CC') / $B_{036}B_{K36}$
Applications	










## LOW VOLTAGE BOARDS

Product	Low Voltage Board
Standards	IEC
$U_r$ (max.)	440 V
$I_r$ (max.)	1000/1600 A
Name	<b>CBT / CBTO</b>
Applications	








**ekorSYS UNITS: PROTECTION, TELEMAGEMENT AND COMMUNICATION**

Protection in Ormazabal cubicles **WSPUR!**





<p><b>ekorRPG + circuit-breaker cubicle</b></p>		<p><b>ekorRPS + circuit-breaker cubicle</b></p>		<p><b>ekorRPGci + circuit-breaker cubicle</b></p>		<p><b>ekorUPG</b> Generator set protection unit</p>
<p>Protection with circuit-breaker function</p>		<p>Multifunctional unit with circuit-breaker</p>		<p>Integrated Control for protection with circuit-breaker function</p>		
<p><b>ekorRPT + fuse protection cubicle</b></p>		<p><b>ekorRPS-TCP + CPG</b></p>		<p><b>ekorRPTci + fuse protection cubicle</b></p>		
<p>Fused Protection Function</p>		<p>Multifunction for substations (primary distribution)</p>		<p>Integrated Control for fused protection function</p>		

Automation and remote control **WSPUR!**

<p><b>ekorRCI + feeder cubicle</b></p>		<p><b>ekorUCT</b></p>	<p><b>CGMCOSMOS-2LPT CGM.3-2LPT (*)</b></p>	<p><b>ekorRTK + cubicle</b></p>
<p>Monitoring, integrated control and fault detection</p>		<p>Compact remote control and automation unit</p>	<p>Integrated remote control equipment (Plug&amp;Play)</p>	<p>Voltage detection unit</p>
<p><b>ekorSTP</b> Programmable transfer unit</p>			 <p>(*) Under development at the time of publication of this catalogue</p>	

Telemagement **U**

Common functions **WSPUR!**

<p><b>ekorGID</b></p>	<p><b>ekorSAS</b></p>	<p>Acoustic alarm</p>	<p><b>ekorSOFT</b></p>	<p><b>Dispatching Centre</b></p>
<p>Smart distribution management unit</p>	<p><b>ekorVPIS</b></p>	<p>Voltage presence indicator</p>	<p>Configuration software for protection and integrated control units</p>	<p>SCADA remote control and management software</p>
	<p><b>ekorIVDS</b></p>	<p>Voltage presence/absence indicator</p>		
	<p><b>ekorSPC</b></p>	<p>Phase comparator</p>		
				

## ORMAZABAL PREFABRICATED TRANSFORMER SUBSTATIONS

Type	Compact Kiosk type	Under-ground	Kiosk type	Rural Compact Kiosk type	Under Pole Kiosk type	PRCS	PAMI / PUIE	CEADS
Electrical equipment	CEADS (MB)		Independent	Compact	Independent			Associated
Standards	IEC					HN (France)		IEC
$U_r$ (max.)	36 kV					20 kV	24 kV	36 kV
Power (max.)	630 kVA		1000 kVA	250 kVA		160 kVA	630 kVA	630 kVA
Name	<b>miniBLOK</b>	<b>miniSUB</b>	<b>ormaSET</b>	<b>CTR</b>	<b>CTC</b>	<b>CTC-R</b>	<b>CTO</b>	<b>MB</b>
Applications								

## TRANSFORMER SUBSTATION IN ORMAZABAL ENCLOSURE

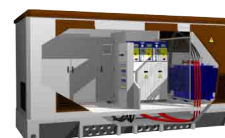
Type	Monoblock building	Underground monoblock	Modular building	Walk-in building	Monoblock building (PAC type)	Monoblock building
Standards	IEC			(China)	HN (France)	IEC (Turkey)
$U_r$ (max.)	36 kV			12 kV	24 kV	36 kV
Max. no. of transformers	2		1, 2, 3...	1		
Individual power (max.)	1000 kVA					
Name	<b>PFU</b>	<b>PFS</b>	<b>PF</b>	<b>TS China</b>	<b>PREFORMA-PF</b>	<b>TFU</b>
Applications						

## SWITCHING AND BREAKING SUBSTATIONS

Type	Kiosk type	
Standards	IEC	HN (France)
$U_r$ (max.)	24 kV	
Name	<b>CMS</b>	<b>ORMAPACK</b>
Applications		

## PHOTOVOLTAIC SUBSTATION

Type	Photovoltaic substation	
Standards	IEC	
$U_r$ (max.)	36 kV	
Max. no. of transformers	1	
Individual power (max.)	500 kVA	1000 kVA
Name	<b>CFI-500</b>	<b>CFI-1000F</b>
Applications		





# ORMAZABAL

Focus on Medium Voltage

## TECHNICAL-COMMERCIAL DEPARTMENT

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

### Products, applications, solutions:

- Primary distribution switchgear
- Secondary distribution switchgear
- Automation, protection, remote control and communications in electrical networks
- Distribution transformers
- Low Voltage boards
- Transformer substations
- Medium Voltage applications for renewable energy

As a result of the continuous development of standards and new designs, the characteristics of the elements contained in this specification may be changed without prior notice.

These specifications and the availability of the materials will only be valid if confirmed by our Technical-Commercial Department.

CA-333-GB-1106

