DEVELOPMENT OF THE MOBILE SUBSTATION FLEET

On the basis of Kharkivoblenergo and Zaporizhzhyaoblenergo

Warsaw, 14 November 2024

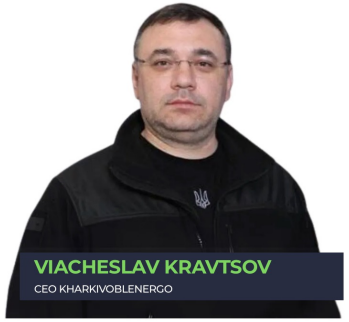
MINISTRY OF ENERGY OF UKRAINE

АКЦІОНЕРНЕ ТОВАРИСТВО ХАРКІВОБЛЕНЕРГО

GE VERNOVA

ANDRII STASEVSKYI
CEO OF ZAPORIZHZHIAOBLENERGO

VOLODYMYR PLECHUN
DEPUTY HEAD OF SERVICE OF ZAPORIZHZHIAOBLENERGO



VIACHESLAV KRAVTSOV
CEO KHARKIVOBLENERGO

CEDERICK ALLWARDT
COMMERCIAL LEADER OF GSI CENTRAL EUROPE, GE VERNOVA

Challenges

Графік відключень електроенергії в м. Харкові та Харківській області в період з 02 листопада 2024 року по 08 листопада 2024 року

№ з/п	Порядок відключення споживачів Харківської області по групам	00:00-00:59	01:00-01:59	02:00-02:59	03:00-03:59	04:00-04:59	05:00-05:59	06:00-06:59	07:00-07:59	08:00-08:59	09:00-09:59	10:00-10:59	11:00-11:59	12:00-12:59	13:00-13:59	14:00-14:59	15:00-15:59	16:00-16:59	17:00-17:59	18:00-18:59	19:00-19:59	20:00-20:59	21:00-21:59	22:00-22:59	23:00-23:59
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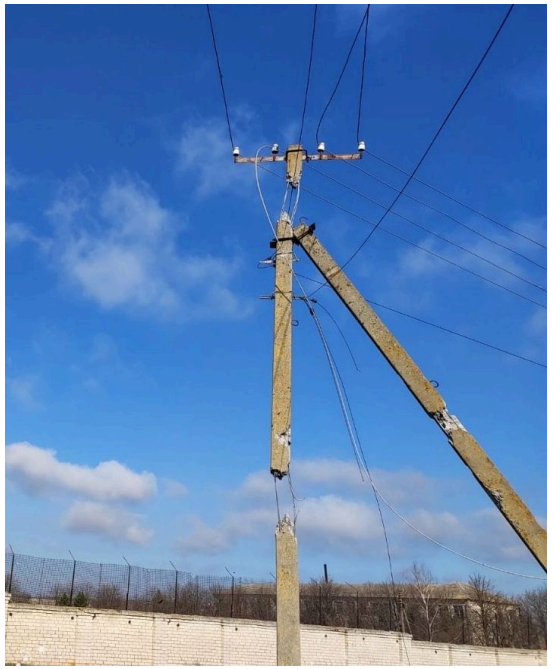
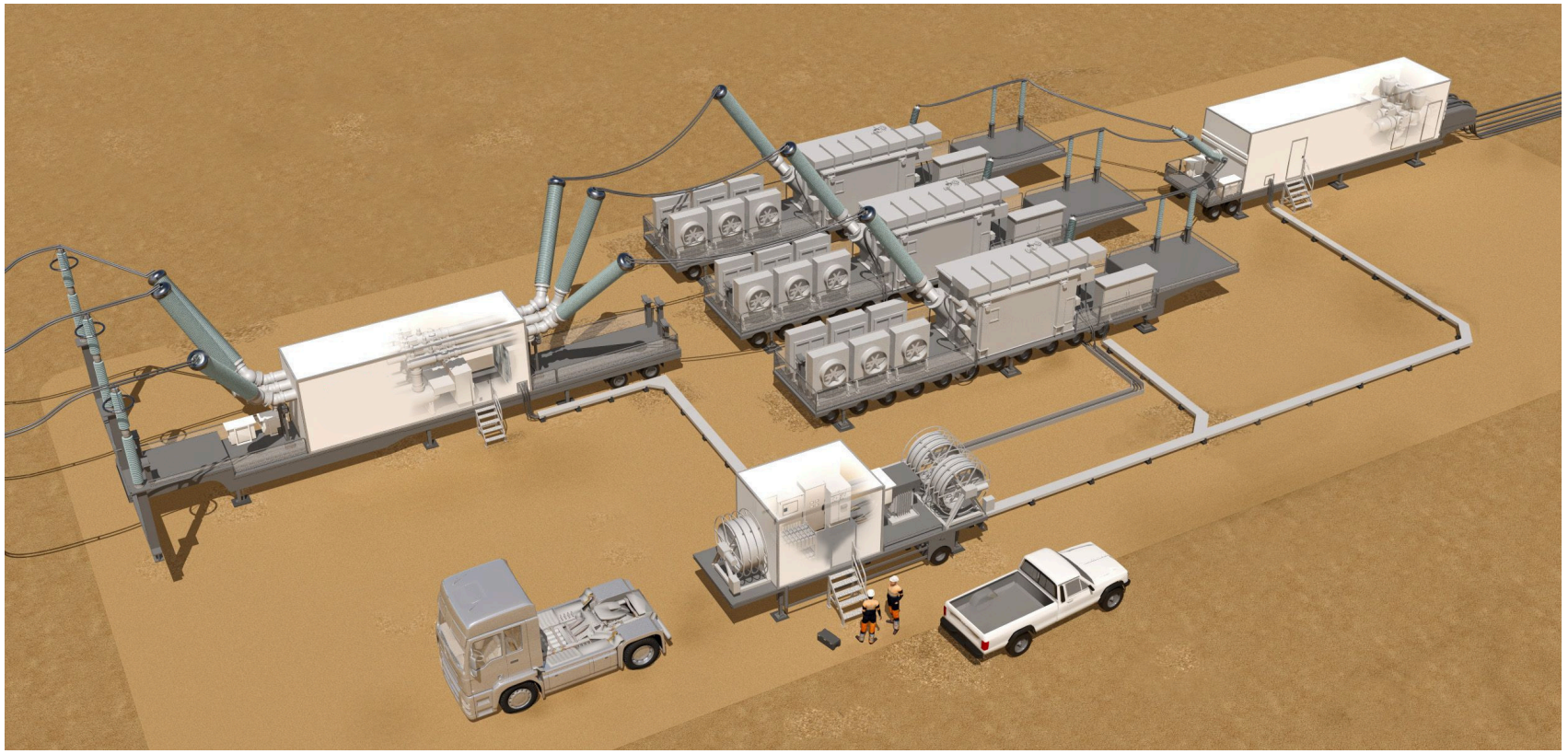
- Відсутнє електропостачання
- Оперативні перемикання
- Відключення відсутні
- Імовірні відлкючення



Concept

Deployed



On a march

Concept

€4.5-7.5M
cost of one substation depending on the setup

12-18 months
to produce and delivery

7,500
customers can be connected to one substation

Main characteristics

- 25 MW
- 150/35/10 kV
- One 3-winding transformer
- 3-4 trucks

Areas of application

- Arrangement of a temporary power node.
- Elimination of the consequences of war, industrial accidents and natural disasters.
- Arrangement of power supply for energy-intensive construction.
- Temporary connection of mobile or stationary power plants.

Benefits of application

- Reduce downtime and related financial losses.
- Reduce technological losses of electricity.
- Reduce SAIDI, SAIFI, MAIFI indicators and provide consumers with greater access to quality electricity.
- Reduce the carbon footprint by transmitting energy closest to the consumer in the most cost-effective way.
- Increase the energy security of the region.
- Create a positive social effect.

UDG Group

Household consumers
4 080 106

Non-household consumers
133 221

Length of overhead power lines, km
186 447

Length of cable power lines, km
20 477

SAIDI in the city, min.
834

SAIDI in the countryside, min.
1149

Number of employees
22 509

Electricity income, thousand kWh
26 605 513

Regional divisions
127

Area, km2
120 269

COOPERATION WITH GE VERNOVA

Main areas of cooperation

- Mobile substations
- Grid automation
- Microgrids
- …

GE VERNOVA

GE VERNOVA UKRAINE INITIATIVE

Mobile Substations – November 2024

Agenda

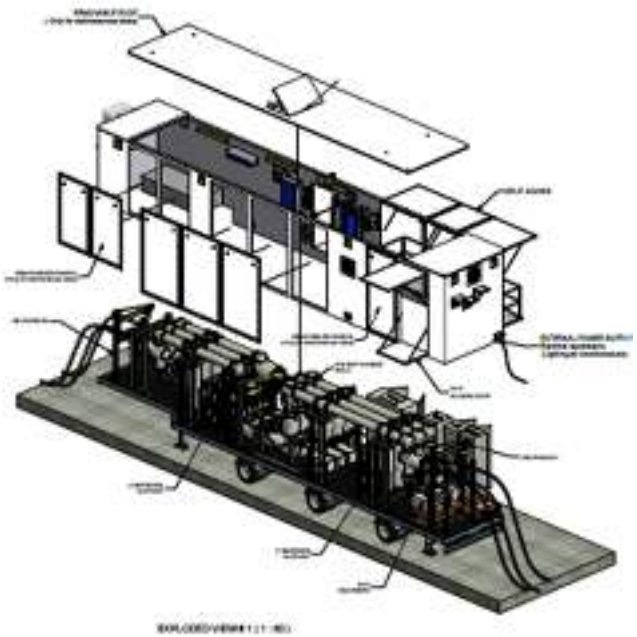
01 **MOBILE SUBSTATION**
Description

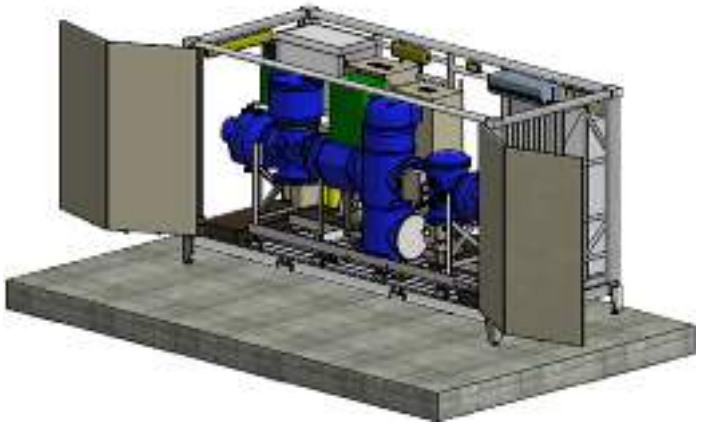
02 **PURPOSE**

03 **KEY BENEFITS**

What is a mobile substation

- Self-contained substation
- Mounted on a trailer, container or skid
- Key components being
  - Power Transformer
  - Switchgear
  - Protection & Control scheme
  - Auxiliary Power
- Existing references up to 420kV





Flexible configuration » designed for customer needs

Reference mobile container 245 / 420 kV

Purpose

Grid connection and power supply, in case of

- emergency, natural disaster, damage or demolition
- special events when short term capacity increase is required
- (re-)construction, repair or maintenance of primary substation






key benefits

ADVANTAGES

BENEFITS

MOBILE INSTALLATION	POSSIBILITY OF RELOCATION
NO CIVIL WORKS	COST AND TIME SAVINGS
FULLY ASSEMBLED DELIVERY	FACTORY TESTED SYSTEM
FLEXIBLE CONFIGURATION	ADAPTATION TO NEEDS
SHORT DELIVERY TIME	POSSIBILITY OF STOCK
SHORT START UP	FAST COMMISSIONG
LOW DISSMANTLEMENT COST	SUSTAINABLE APPLICATION

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