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Data Centres...
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Data Centres in Ukraine...

VERSION 1.0

Building a Modern Data Centre Industry in Post-War Ukraine.





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Introduction

Following the conflict, Ukraine is emerging with new ambitions, looking to become a digital powerhouse in the region. Some key aspects underline its potential.

Ukraine's strides in digitizing its government and finance sectors emphasize its capability and vision, which makes the country a potential digital leader on the global stage.



Data Usage in Europe

As technology continues to shape our lives, Europe is expected to see a surge in data usage in the coming decades. This means we'll need more places to store and manage this data. The following is why data use will increase and how it's going to impact the construction of data centres.



DIGITAL TRANSFORMATION

MANY INDUSTRIES IN EUROPE ARE UNDERGOING DIGITAL TRANSFORMATION, MOVING THEIR OPERATIONS, SALES, AND MARKETING ONLINE. THE INTERNET OF THINGS (IOT) IS GROWING, WITH MORE DEVICES BEING CONNECTED TO THE INTERNET, RANGING FROM HOUSEHOLD APPLIANCES TO INDUSTRIAL EQUIPMENT.



CONTENT CREATION

WITH THE RISE OF SOCIAL MEDIA, VIDEO STREAMING, AND GAMING PLATFORMS, CONTENT CREATION AND CONSUMPTION HAVE SKYROCKETED. 4K, 8K, AND EVEN VIRTUAL REALITY CONTENT DEMAND SIGNIFICANT DATA STORAGE AND BANDWIDTH.



CLOUD ADOPTION

THE ADOPTION OF CLOUD SERVICES IS INCREASING, BOTH FOR BUSINESSES SHIFTING TO CLOUD INFRASTRUCTURES AND FOR CONSUMERS USING CLOUD-BASED APPS AND STORAGE.

Impact on Data Usage in Europe (Construction of Data Centres)

Due to the rapid growth of data usage in Europe, there's a rising need to build more data centres. This is essential to efficiently store and manage all that information. The reasons behind this trend and how it's influencing the construction of new data centres across the continent are summarized below:



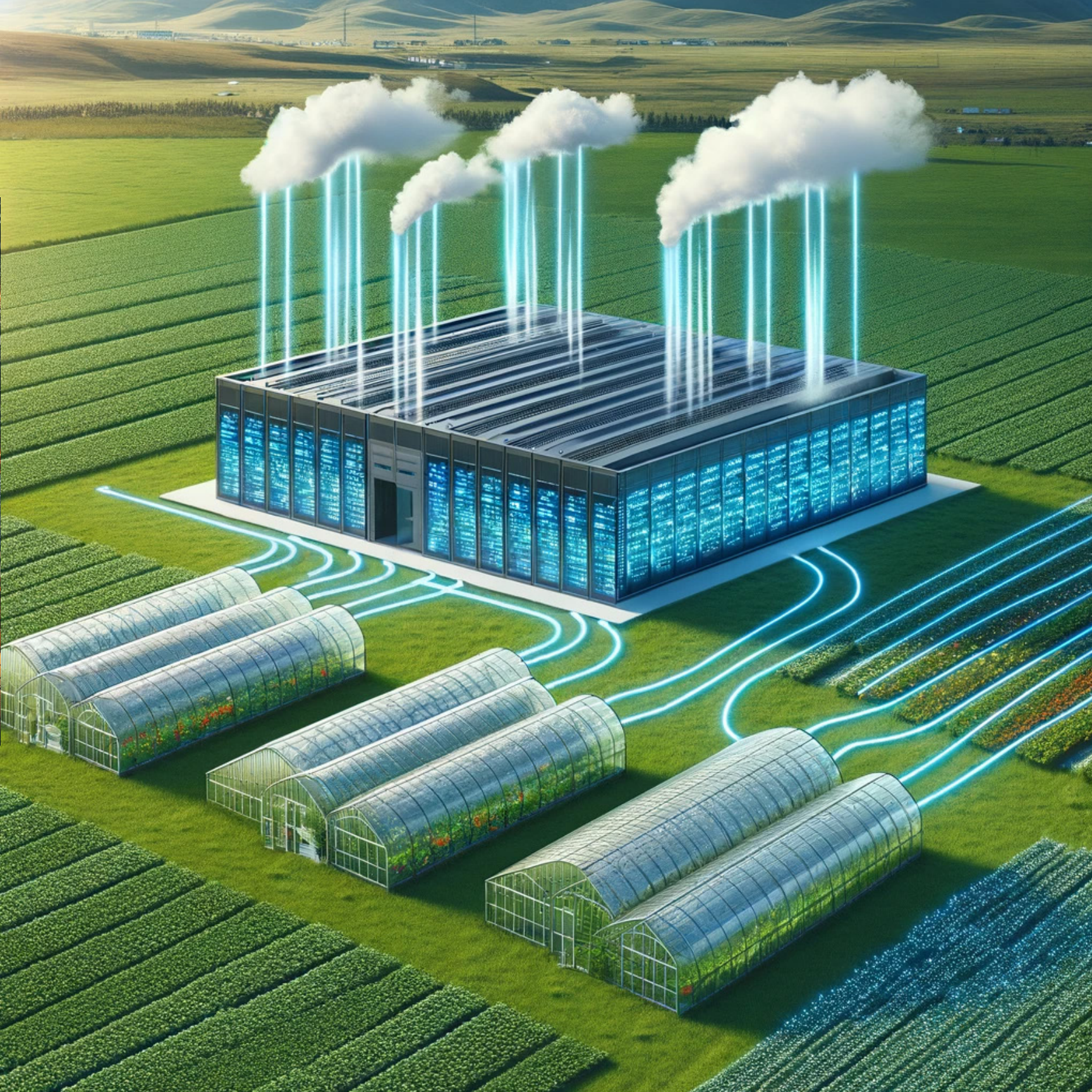
Investment in Infrastructure

WITH MORE DATA CENTRES, THERE WILL BE A NEED FOR IMPROVED INFRASTRUCTURE, INCLUDING POWER SOURCES, NETWORKING CAPABILITIES, AND PHYSICAL SECURITY.

Increased Demand

A NATURAL OUTCOME OF DATA GROWTH WILL BE INCREASED DEMAND FOR DATA CENTRES TO STORE AND MANAGE THIS DATA.

Impact on Data Usage in Europe (Construction of Data Centres)



Focus on Sustainability

EUROPE HAS BEEN AT THE FOREFRONT OF ADVOCATING FOR SUSTAINABLE PRACTICES. AS ENERGY CONSUMPTION IS A SIGNIFICANT CONCERN FOR DATA CENTRES, WE CAN EXPECT A PUSH TOWARDS MORE ENERGY-EFFICIENT DATA CENTRE DESIGNS, THE USE OF RENEWABLE ENERGY, AND ADVANCED COOLING TECHNIQUES.

Land and Location Challenges

HIGH DEMAND MIGHT RESULT IN CHALLENGES RELATED TO FINDING SUITABLE LAND FOR DATA CENTRES, LEADING COMPANIES TO EXPLORE INNOVATIVE SOLUTIONS LIKE UNDERWATER DATA CENTRES OR REPURPOSING OLD INDUSTRIAL SITES.



Distributed Architecture

EDGE COMPUTING, WHICH INVOLVES PROCESSING DATA CLOSER TO THE LOCATION WHERE IT'S GENERATED RATHER THAN IN A CENTRALIZED DATA CENTRE, WILL LIKELY DRIVE THE CONSTRUCTION OF SMALLER, DISTRIBUTED DATA CENTRES. THIS IS PARTICULARLY USEFUL FOR APPLICATIONS LIKE IOT, WHERE LOW LATENCY IS CRUCIAL.



Data Sovereignty and Regulation

EUROPEAN REGULATIONS LIKE GDPR EMPHASIZE DATA PROTECTION AND SOVEREIGNTY. THIS MIGHT DRIVE COMPANIES TO STORE DATA WITHIN EUROPEAN BORDERS, FURTHER FUELING THE DEMAND FOR DATA CENTRES WITHIN THE REGION.

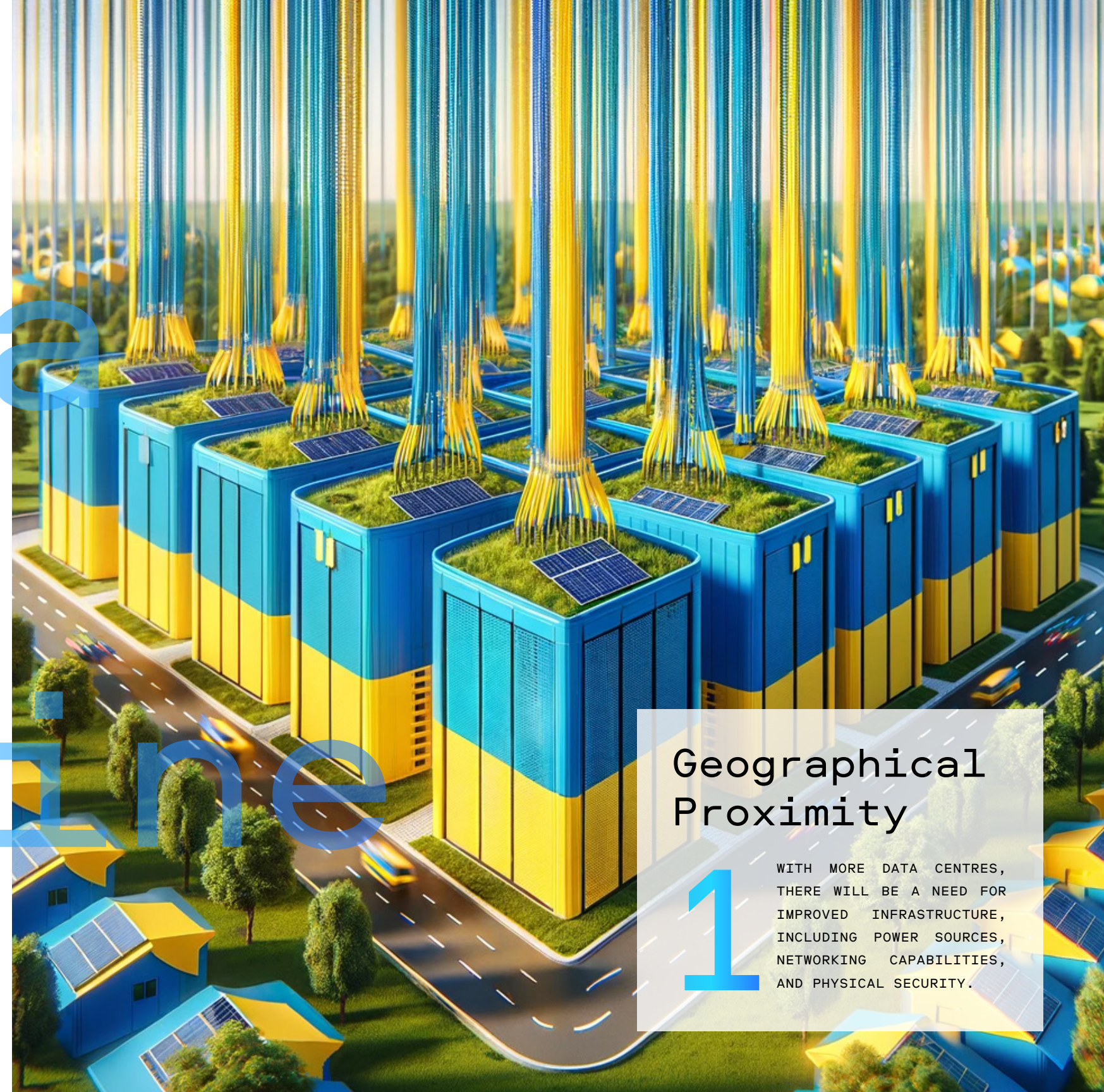
Why Data Centres in Ukraine?

As Europe considers reducing its technological ties with Russia, Ukraine emerges as a potential hub for data centres. Situated strategically between Europe and Asia, with affordable costs and a skilled IT workforce, Ukraine offers compelling advantages. The following are the key reasons why building a data centre industry in Ukraine might be a strategic move for Europe.

Geographical Proximity

1

WITH MORE DATA CENTRES, THERE WILL BE A NEED FOR IMPROVED INFRASTRUCTURE, INCLUDING POWER SOURCES, NETWORKING CAPABILITIES, AND PHYSICAL SECURITY.



Why Data Centres in Ukraine?



Nuclear Energy Advantage

2

UKRAINE HAS A SIGNIFICANT PORTION OF ITS ELECTRICITY GENERATED FROM NUCLEAR POWER. THIS SOURCE OF ENERGY IS NOT ONLY RELIABLE BUT ALSO EMITS LOW GREENHOUSE GASES COMPARED TO FOSSIL FUELS. HARNESSING NUCLEAR ENERGY FOR DATA CENTRES COULD PROVIDE A SUSTAINABLE AND CONSISTENT POWER SUPPLY, MAKING UKRAINE AN ENVIRONMENTALLY CONSCIOUS CHOICE FOR LARGE-SCALE DIGITAL INFRASTRUCTURE.



Cost-Efficiency

3

HISTORICALLY, THE COST OF LABOR AND LAND IN UKRAINE HAS BEEN MORE AFFORDABLE COMPARED TO WESTERN EUROPEAN COUNTRIES. THIS CAN LEAD TO MORE COST-EFFECTIVE OPERATIONS FOR COMPANIES SETTING UP DATA CENTRES.

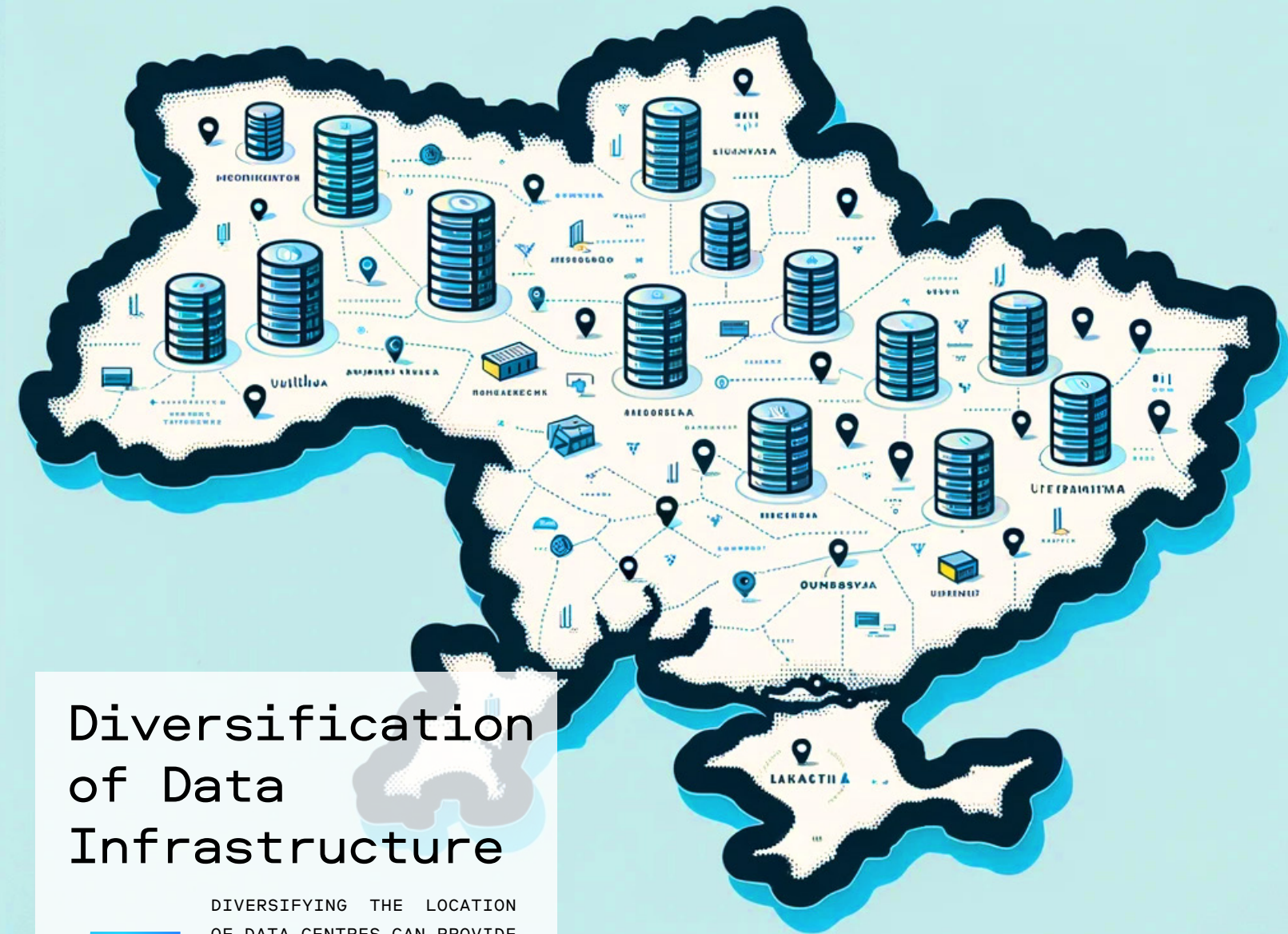


Political and Economic Considerations

4

IF EUROPE SEEKS TO DISTANCE ITSELF FROM RUSSIA, SUPPORTING UKRAINE BY INVESTING IN INFRASTRUCTURE COULD ALSO SERVE AS A GEOPOLITICAL MOVE, STRENGTHENING TIES WITH UKRAINE.

Why Data Centres in Ukraine?



Diversification of Data Infrastructure

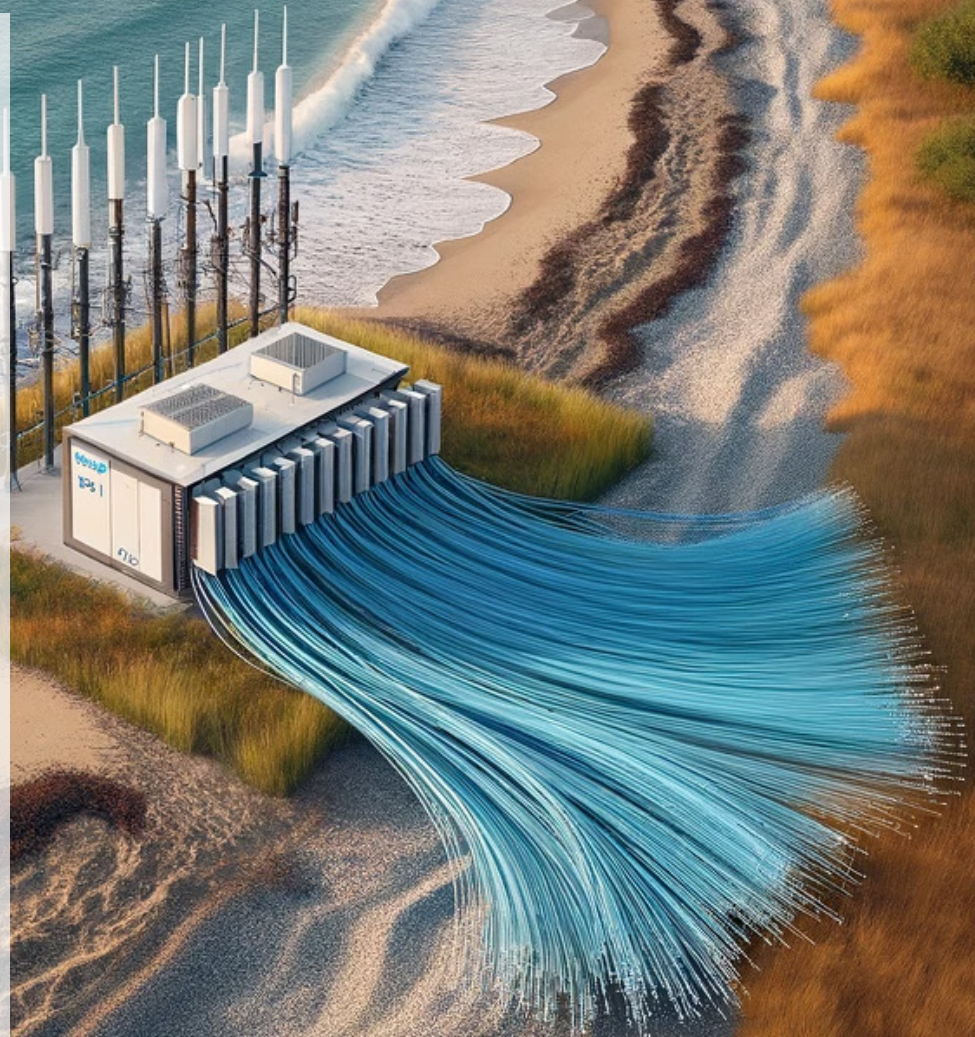
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DIVERSIFYING THE LOCATION OF DATA CENTRES CAN PROVIDE REDUNDANCY, ENSURING THAT IF ONE REGION FACES OUTAGES OR ISSUES, DATA SERVICES CAN CONTINUE WITHOUT SIGNIFICANT DISRUPTIONS.

Black Sea Connectivity Advantage

UKRAINE'S STRATEGIC POSITION ON THE BLACK SEA OFFERS A DISTINCTIVE ADVANTAGE FOR GLOBAL CONNECTIVITY. WITH THE BLACK SEA COASTLINE, THERE'S POTENTIAL TO LAY NEW FIBRE OPTIC CABLES UNDERWATER, ESTABLISHING FASTER AND DIRECT DIGITAL ROUTES TO OTHER PARTS OF THE WORLD, INCLUDING NORTH AFRICA, THE BALKANS, AND EVEN EXTENDING TOWARDS THE MIDDLE EAST. THIS SEA-BASED CONNECTIVITY CAN GREATLY ENHANCE DATA TRANSFER SPEEDS AND REDUCE LATENCIES, POSITIONING UKRAINE AS A PIVOTAL HUB IN THE GLOBAL DIGITAL NETWORK.

6



Highly Skilled Workforce

7

UKRAINE HAS A ROBUST IT AND TECH SECTOR, WITH A LARGE POOL OF SKILLED PROFESSIONALS. THIS HUMAN RESOURCE CAN BE TAPPED INTO FOR EFFICIENT AND INNOVATIVE DATA CENTRE OPERATIONS.

Future of Data Centres in Ukraine

Post-War Rebuilding Opportunities

After the conflicts in Ukraine, there's an ongoing rebuilding and modernization process. This presents a unique opportunity to lay state-of-the-art infrastructure tailored for the digital age. Building from the ground up can ensure the integration of new fibre optic lines, advanced electrical transformer stations, an upgraded electrical grid, and other necessary facilities. This fresh start can enable data centres in Ukraine to operate on a cutting-edge, robust, and efficient infrastructure, ensuring high reliability and performance.

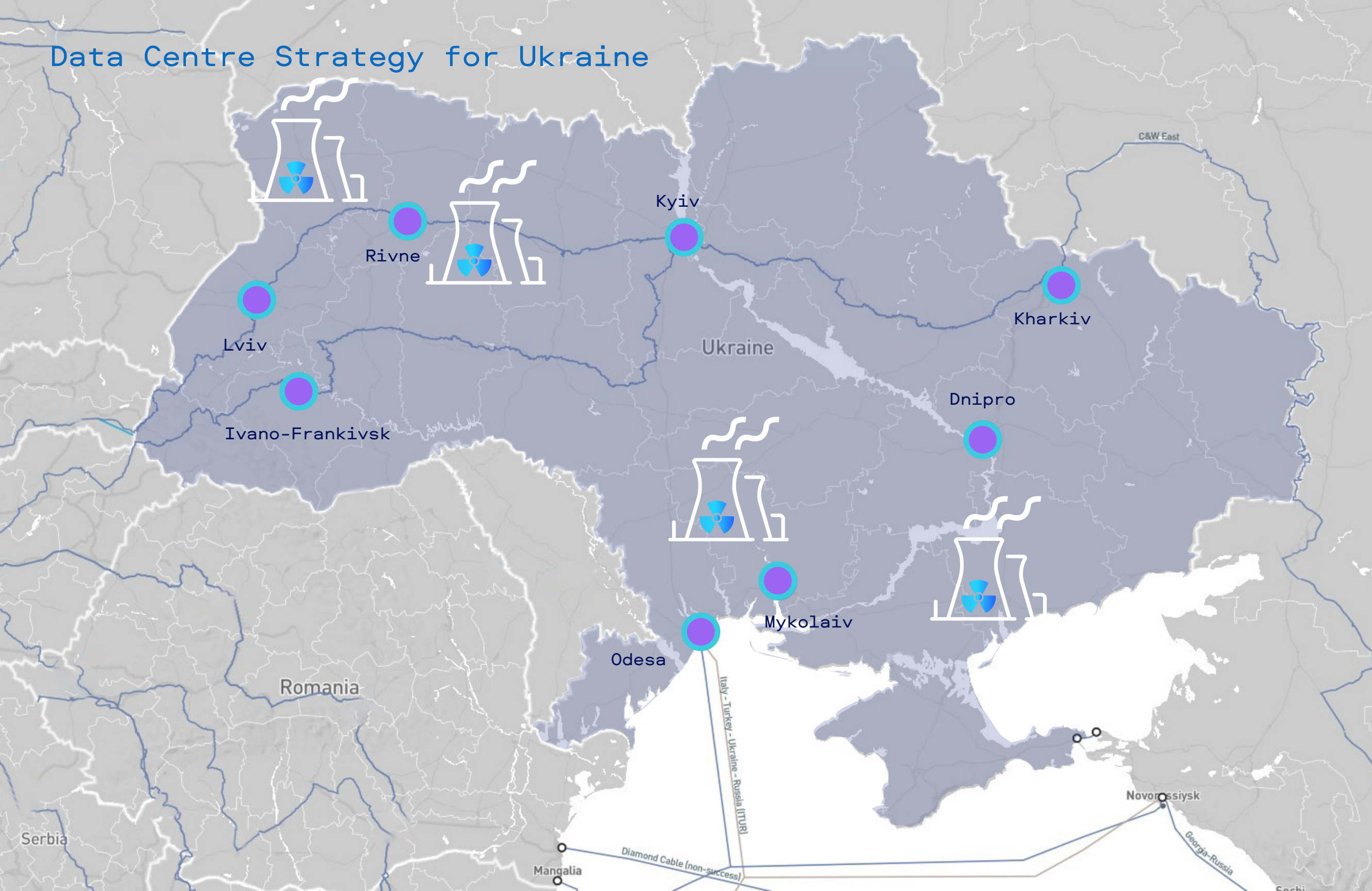


Data Centre Strategy for Ukraine





As the world evolves, Ukraine's data centre strategy - the right vision, substantial investments, and global synergy - will be at the forefront, propelling economic development, technological innovation, and global integration.

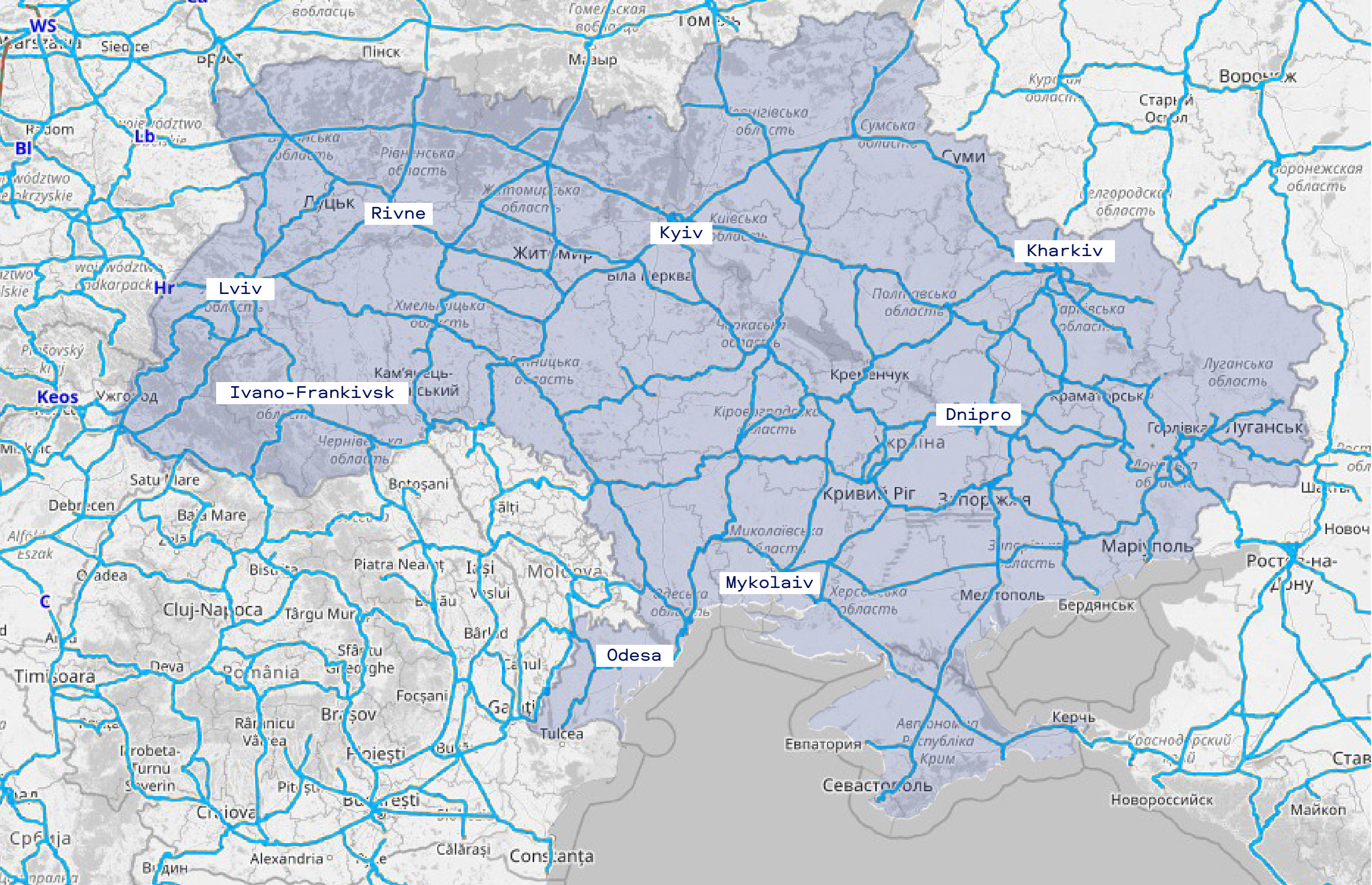


Data Centre Strategy for Ukraine



Existing Data Centres in Ukraine

- LEGEND:
-  EXISTING DATA CENTRES
 -  TERRESTRIAL NETWORKS
 -  SUBSEA CABLES
 -  NUCLEAR POWER PLANTS

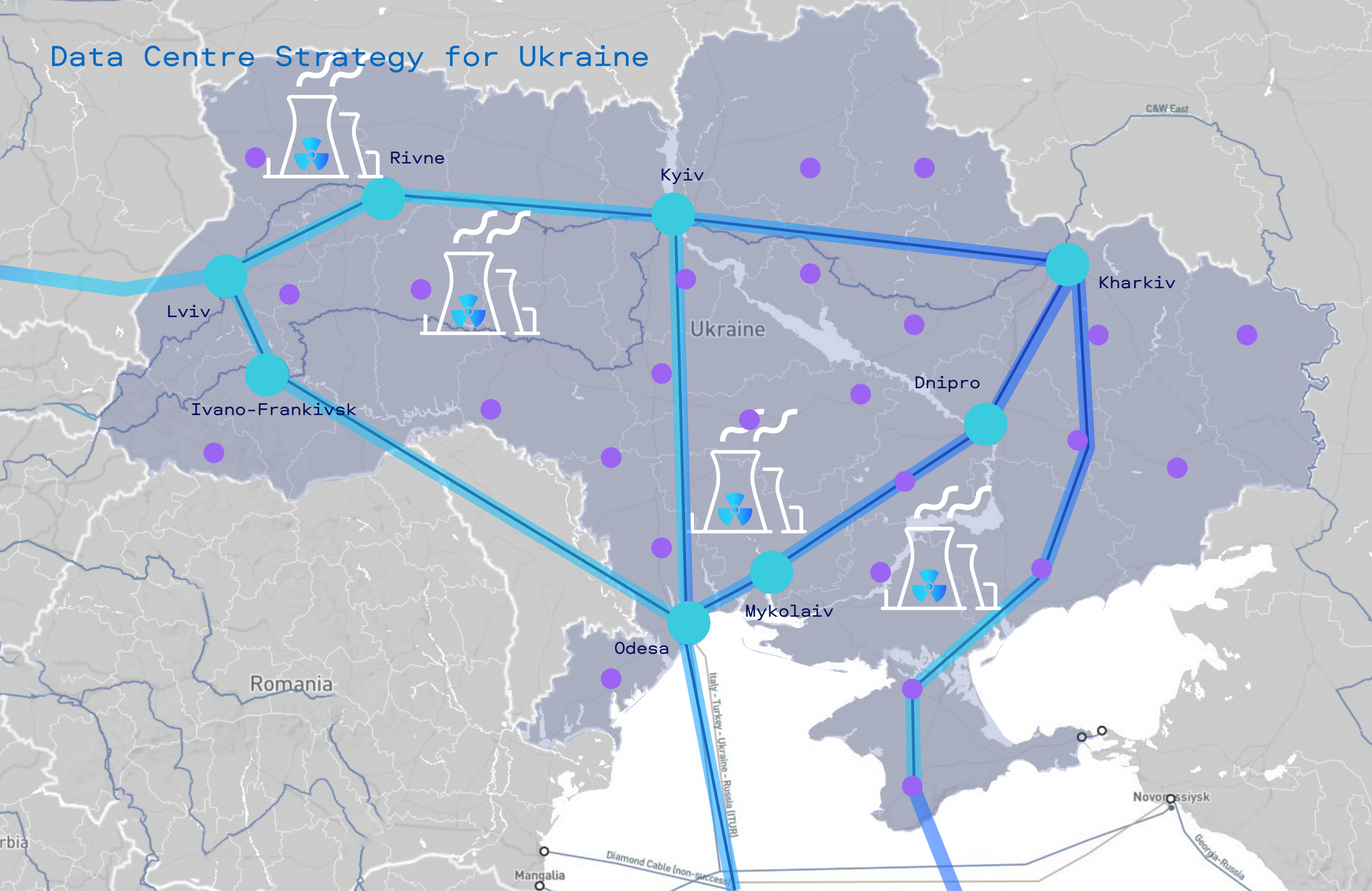


Map of Ukrainian Railway Routes

UKRAINE'S STRATEGICALLY ADVANTAGEOUS GEOGRAPHICAL LOCATION CAN FACILITATE THE GROWTH OF DATA CENTRES AND THE DEVELOPMENT OF FIBER OPTIC CONNECTIONS. THE COUNTRY'S EXTENSIVE RAILROAD NETWORK, WHICH OFTEN CROSSES DIVERSE TERRAIN, OFFERS AN IDEAL ROUTE FOR FIBER OPTIC LINES. THESE LINES CAN CONNECT MAJOR URBAN CENTRES, INDUSTRIAL HUBS, AND UNDERSERVED REGIONS, EXPANDING ACCESS TO BROADBAND ACROSS UKRAINE.

LEGEND:
— TERRESTRIAL NETWORKS

Data Centre Strategy for Ukraine



Potential Data Centres in Ukraine

IN LIGHT OF THE CURRENT SITUATION IN UKRAINE AND GLOBAL TRENDS IN DATA CENTRE CONSTRUCTION, THE MOST EFFECTIVE APPROACH FOR UKRAINE IS NOT TO FOCUS EXCLUSIVELY ON BUILDING LARGE DATA CENTRES LOCATED PRIMARILY IN THE WEST AND CENTRE OF THE COUNTRY WHERE NUCLEAR POWER PLANTS ARE BASED. INSTEAD, ADOPTING A DISTRIBUTED MODEL BY BUILDING MANY MODULAR DATA CENTRES ACROSS THE COUNTRY MAY BETTER MEET THE NEEDS OF SECURITY, RESILIENCY, AND EFFICIENT DATA DISTRIBUTION IN TODAY'S DYNAMIC DATA LANDSCAPE.

LEGEND:

- DATA CENTRES
- TERRESTRIAL NETWORKS
- POTENTIAL MODULAR DATA CENTRES
- POTENTIAL FIBER OPTIC LINES
- SUBSEA CABLES
- NUCLEAR POWER PLANTS

Data Centre Strategy for Ukraine



Unllocking Potential

UKRAINE'S GEOGRAPHIC LOCATION PROVIDES A UNIQUE ADVANTAGE FOR INTERNATIONAL CONNECTIVITY. ACROSS THE BLACK SEA, UKRAINE SERVES AS A VITAL LINK IN DATA BACKBONE THAT COULD CONNECT EUROPE AND INDIA. ONE OF THE POTENTIAL OPTIONS OF DATA TRANSMISSION ROUTES IS TO PASS THROUGH THE BLACK SEA AND CONNECT UKRAINE WITH ISRAEL, JORDAN, SOUTH ARABIA, OMAN, AND INDIA, FURTHER STRENGTHENING ITS ROLE AS A KEY TRANSIT CORRIDOR FOR DATA TRAFFIC BETWEEN THESE REGIONS. THIS STRATEGIC POSITIONING NOT ONLY BENEFITS UKRAINE'S DATA INFRASTRUCTURE, BUT ALSO STRENGTHENS ITS POSITION IN THE GLOBAL DIGITAL LANDSCAPE.

LEGEND:

- EXISTING DATA CENTRES
- POTENTIAL MODULAR DATA CENTRES
- POTENTIAL FIBER OPTIC LINES



TO BE CONTINUED

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