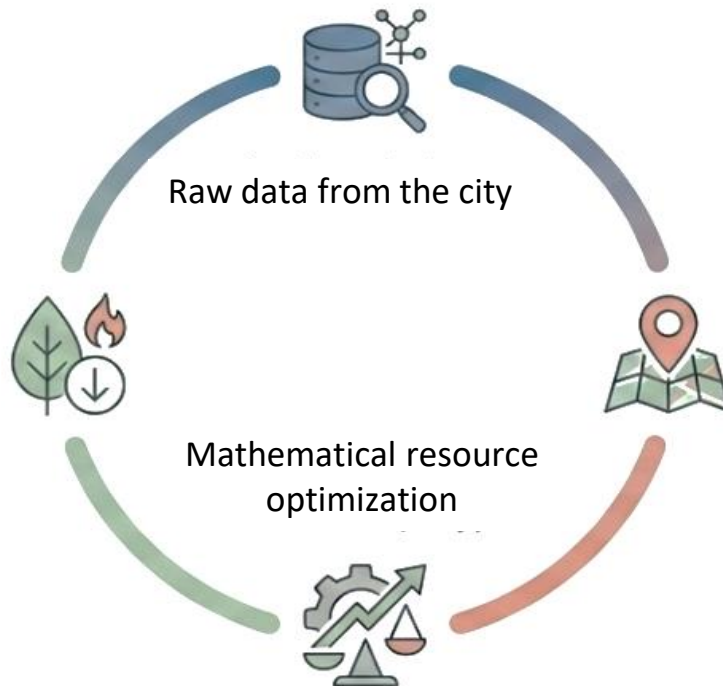


GEOINFORMATION TECHNOLOGIES FOR THE DESIGN AND OPERATION OF UTILITY NETWORKS

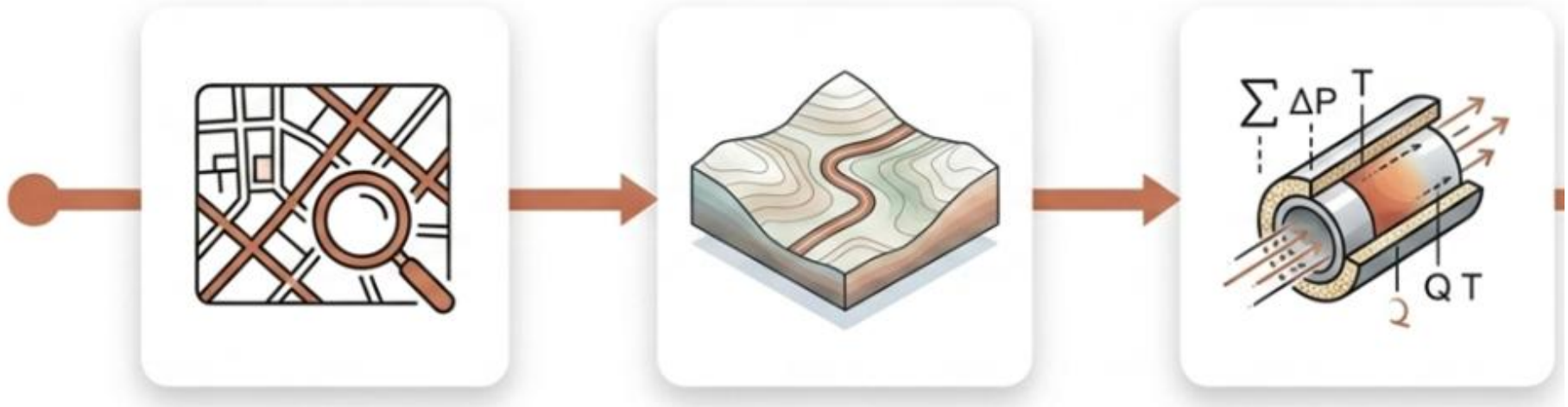


CREATING SMART THERMAL GRIDS

Lower costs and
eco-friendly heat



STAGES IN THE DEVELOPMENT OF A GIS FOR HEATING NETWORKS

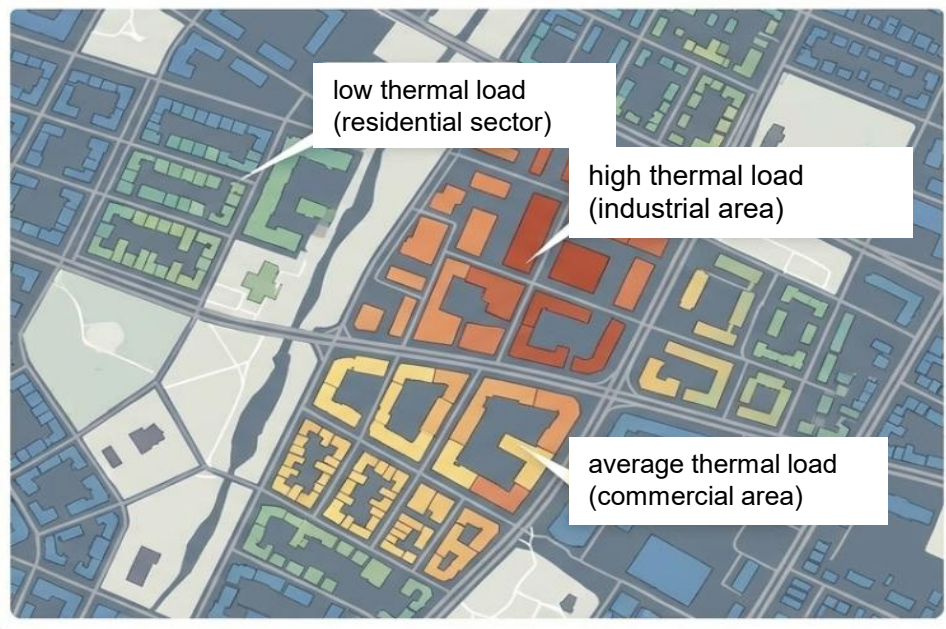


Understanding the
city's needs at the
macro level

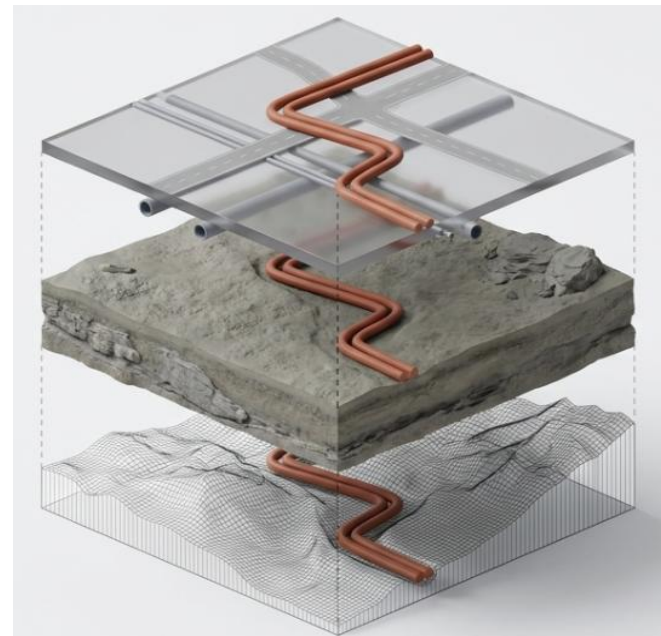
Cost-Distance Analysis

Calculation of heat loss

GIS APPLICATIONS FOR HEATING NETWORKS



Demand Analysis (Zoning)

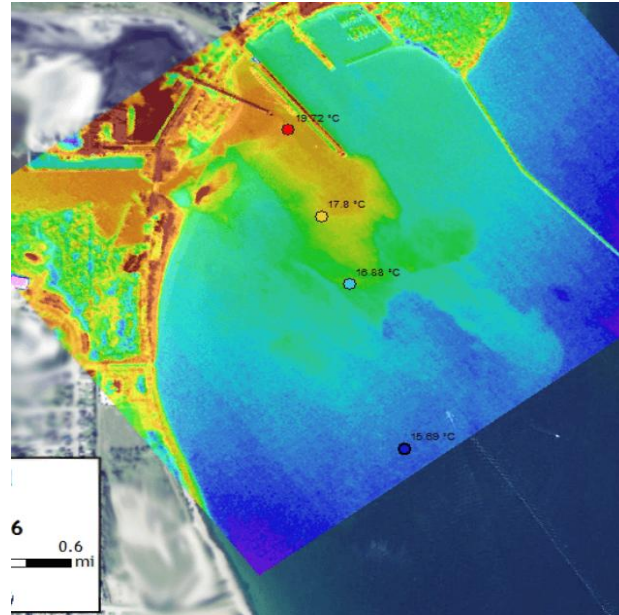


Cost-Distance Analysis

ASSESSMENT OF POLLUTION FROM ENERGY FACILITIES USING MATHEMATICAL MODELING AND SATELLITE MONITORING



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ASSESSMENT OF POLLUTION FROM ENERGY FACILITIES USING MATHEMATICAL MODELING AND SATELLITE MONITORING



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Preparation

Obtaining satellite images and data from ground measuring stations, normalizing measured data.



Modeling

Selection of the parameters of a mathematical model so that it corresponds as accurately as possible to a set of experimental or observed data.



Forecast

Generation of a pollution map for a specific area.



ASSESSMENT OF POLLUTION FROM ENERGY FACILITIES USING MATHEMATICAL MODELING AND SATELLITE MONITORING



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The satellite provides a "flare" of emissions, which is used to define the boundaries of data collection from ground stations and calibrate absolute values of pollutant concentrations in the surface layer.



GEO-INFORMATION TECHNOLOGIES AT THE DEPARTMENT OF SOFTWARE ENGINEERING IN THE ENERGY SECTOR



Кафедра
Інженерії Програмного
Забезпечення в Енергетиці

The Department of Software Engineering trains high-level specialists in software engineering in the following areas: the development of cutting-edge control systems for complex technical and organizational systems, particularly in the energy sector; the development of new technologies for the design and implementation of intelligent systems; solving problems to improve the efficiency of any systems using artificial intelligence, machine learning, big data processing, Internet of Things technologies, edge and cloud analytics, and the development of web and mobile applications.



<https://ipze.kpi.ua/about/about1/>



GIS TEAM OF THE DEPARTMENT OF SOFTWARE ENGINEERING IN THE ENERGY SECTOR (SEES)



Кафедра
Інженерії Програмного
Забезпечення в Енергетиці

Valery Shvayko, GIS and Remote Sensing Expert, Big Data Analyst, Programmer

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Ivan Varava, Associate Professor, Mathematical Modeling, Information Systems Design, Intelligent Data Analysis, Programmer

Oleksiy Ishchuk, GIS Expert, GIS Analyst

Bogdan Savchuk, Ph.D., Expert in Process Analytical Modeling, Programmer, GIS Analyst

Olena Shevchenko, Director of the Research and Training Center for Energy Decarbonization at the Energy Innovation Hub of the Igor Sikorsky Kyiv Polytechnic Institute, Expert in Energy Efficiency



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"Igor Sikorsky Kyiv Polytechnic Institute"**