

InTech-Forecast

Forecasting Electricity Generation
for Solar and Wind Stations



Issue/Relevance



Generation

Unstable
electricity
generation from
renewable energy
stations



Climate

Sharply
continental with
significant
temperature
changes.



Imbalances

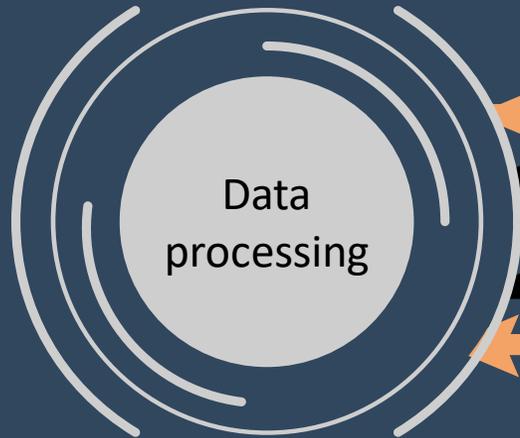
According to JSC
"KEGOC":
from **-200 MW to**
+150 MW (30%)



Financial Regulation

Hourly Accuracy

How does model operate?



Historical data on electricity generation



Data on station outages and emergency shutdowns



Historical forecasted weather data

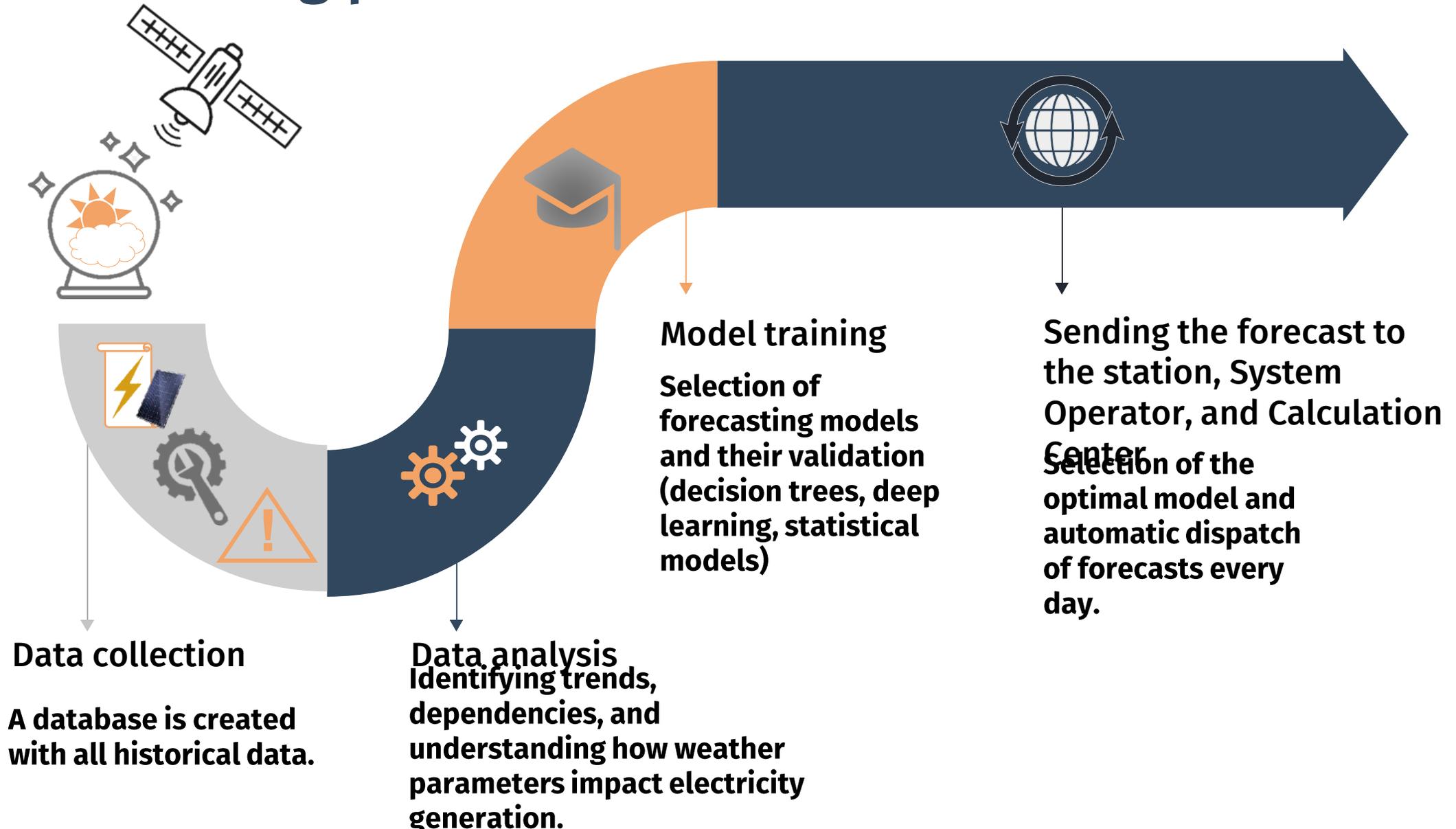


Data on weather forecast for the next day or hour



Technical specifications of the station's operation

The building process of the InTech-Forecast model



Additional factors complicating the forecasting



Cloud cover



**Snow cover on solar panels
(maintenance level)**



**Technical condition
of solar panels
and wind turbines**

Unpredictable cloud cover

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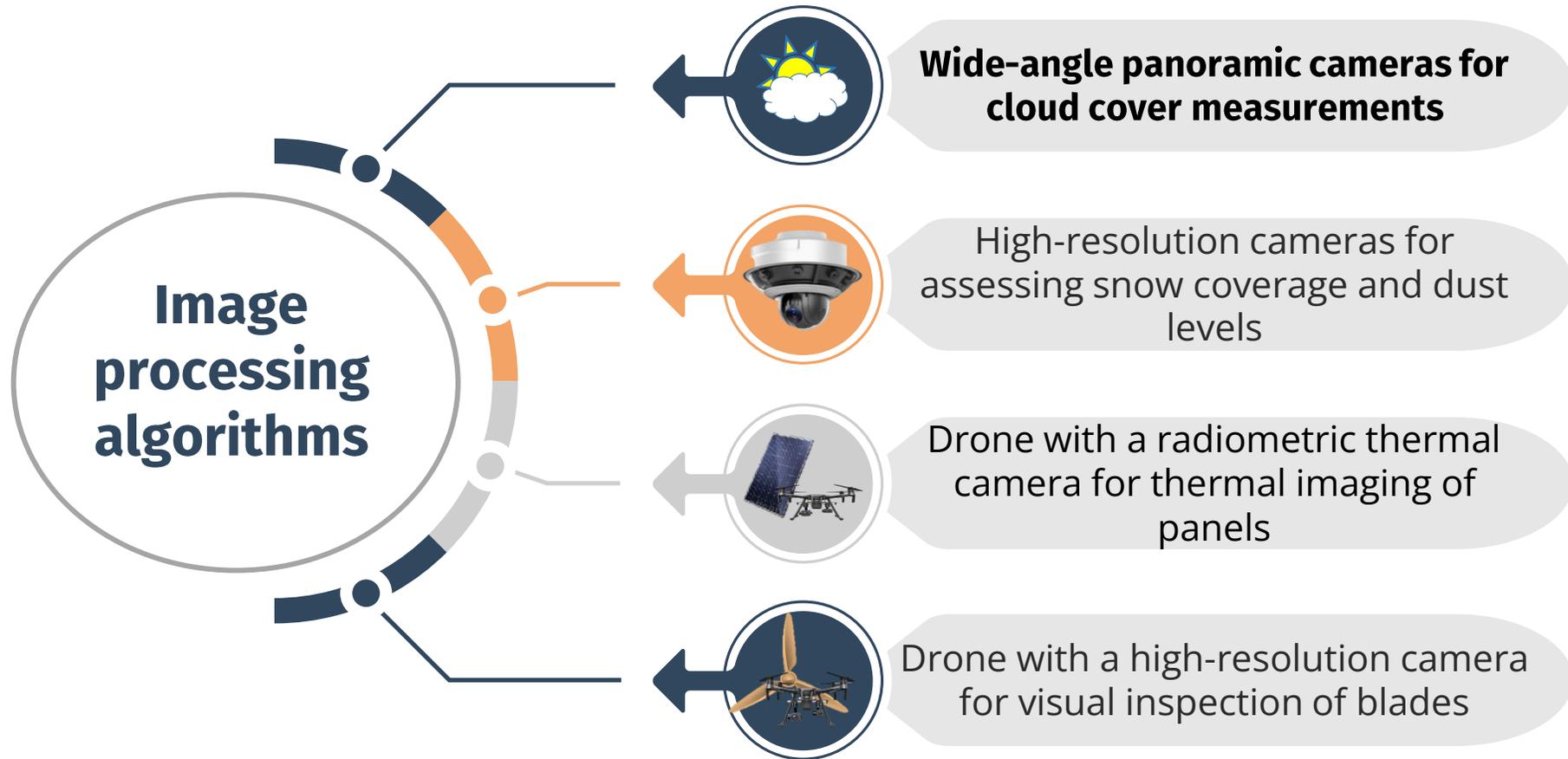


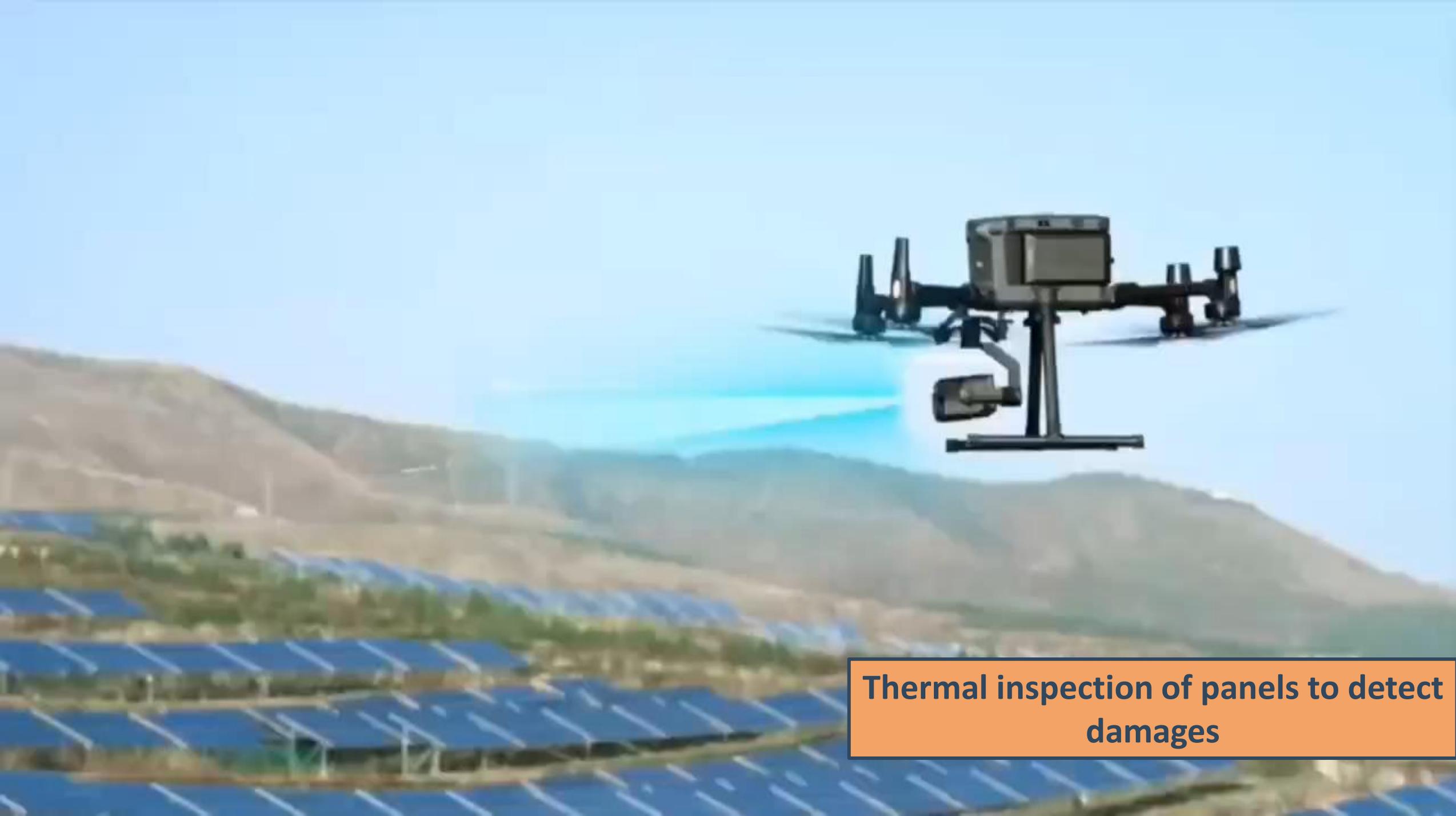
IPC

**Solar Power Plant
KENGIR 05 – 09 a.m.**

How can we enhance accuracy?

How to increase accuracy??





Thermal inspection of panels to detect damages

Выработка электроэнергии

Суточная статистика

Месячная статистика

Годовая статистика

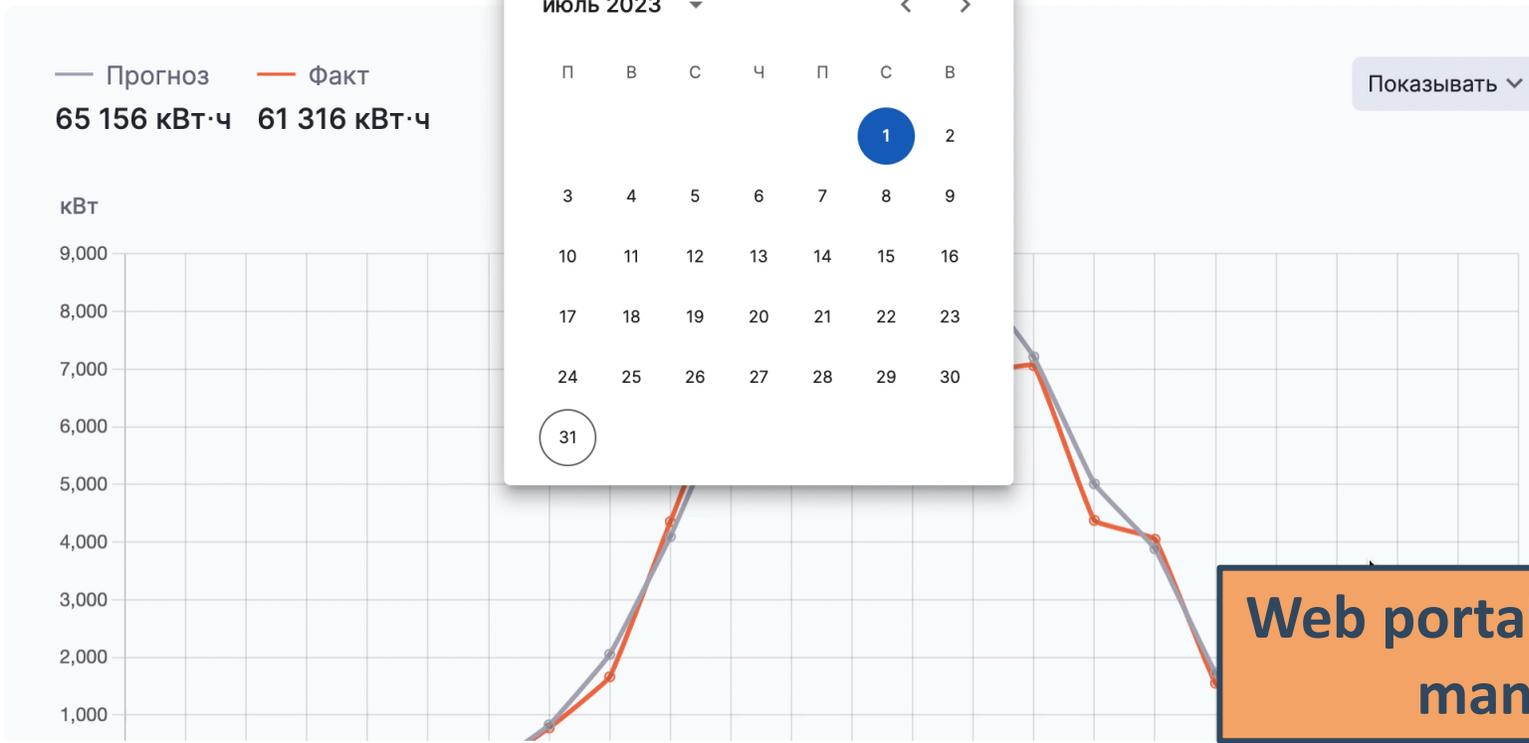
Сегодня Завтра Другая дата 01.07.2023 График Таблица

Оправдываемость
93.93 %

КИУМ
27.87 %

Доход
1 839 480 ₸
(по тарифу 30 тенге)

Снижение выбросов CO2
37.00 тонн



Web portal for renewable energy station managers (desktop version)