

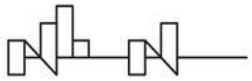
INNOVATION IN DISASTER PREVENTION

Challenges, Solutions and Opportunities
in Disaster Risk Reduction

GISBN National Security System

Beata Janowczyk

Iceland
Liechtenstein
Norway grants



RCB

Rządowe Centrum
Bezpieczeństwa

Warsaw, 10.05.2023

PLAN OF THE SPEECH

1. COVID-19 System - solution for COVID-19 epidemic
2. Implemented New Solutions for Disaster Risk Redaction.
3. Current development plans for the system.

New technology as a solution to increase preparedness and situation awareness.

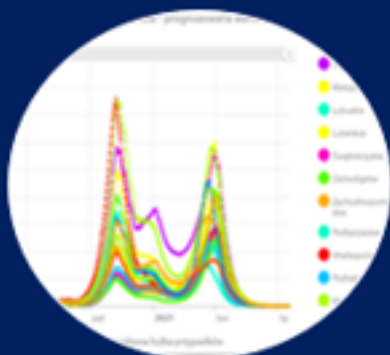


System GISCOVID-19

The screenshot displays the GISCOVID-19 system interface. It features a globe on the left and several virus particles in the background. Below the globe are four data visualization panels:

- covid19**: A map of Poland with red dots indicating COVID-19 cases. Statistics shown include 25,127 total cases, 1,127 active cases, and 4,625,592 total tests.
- Hospitalizowani**: A map of Poland with red dots indicating hospitalized cases. A large number '5,12' is displayed prominently.
- Kwarantanna**: A map of Poland with red dots indicating quarantine locations.
- Kwarantanna - służby**: A map of Poland with red dots indicating quarantine services.

A blue double arrow icon is visible on the right side of the interface.



SUPPORT FOR THE DECISION-MAKING PROCESS AT THE CENTRAL AND REGIONAL LEVEL



PROVIDING STATE SERVICES WITH INFORMATION ON THE EPIDEMIC SITUATION



ENSURING THAT THE PUBLIC HAS ACCESS TO UP-TO-DATE DATA ON EPIDEMIC DEVELOPMENT AND THE VACCINATION PROCESS

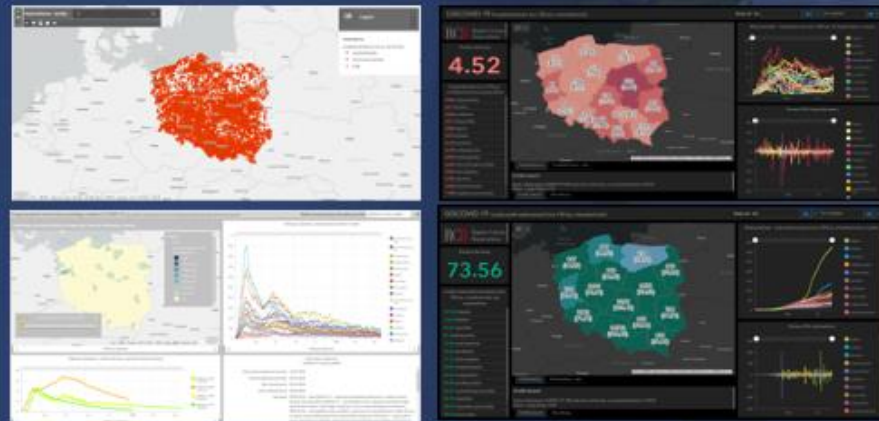


PROVIDING INFORMATION TO THE REGIONAL EMERGENCY MEDICAL SERVICES COORDINATOR ABOUT BED RESOURCES

OBJECTIVES OF THE SYSTEM

SYSTEM ARCHITECTURE

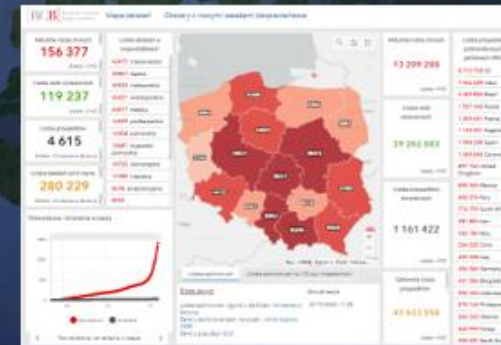
Component for crisis management on servers of Armed Forces



Portal with limited access, shared to public services and selected recipients.

Quarantine module, availability of free beds in hospitals, epidemic prediction model, new cases, deaths, recovered.

Component for civilians on ArcGIS Online



Two modules:
Covid-19 cases and
vaccination process



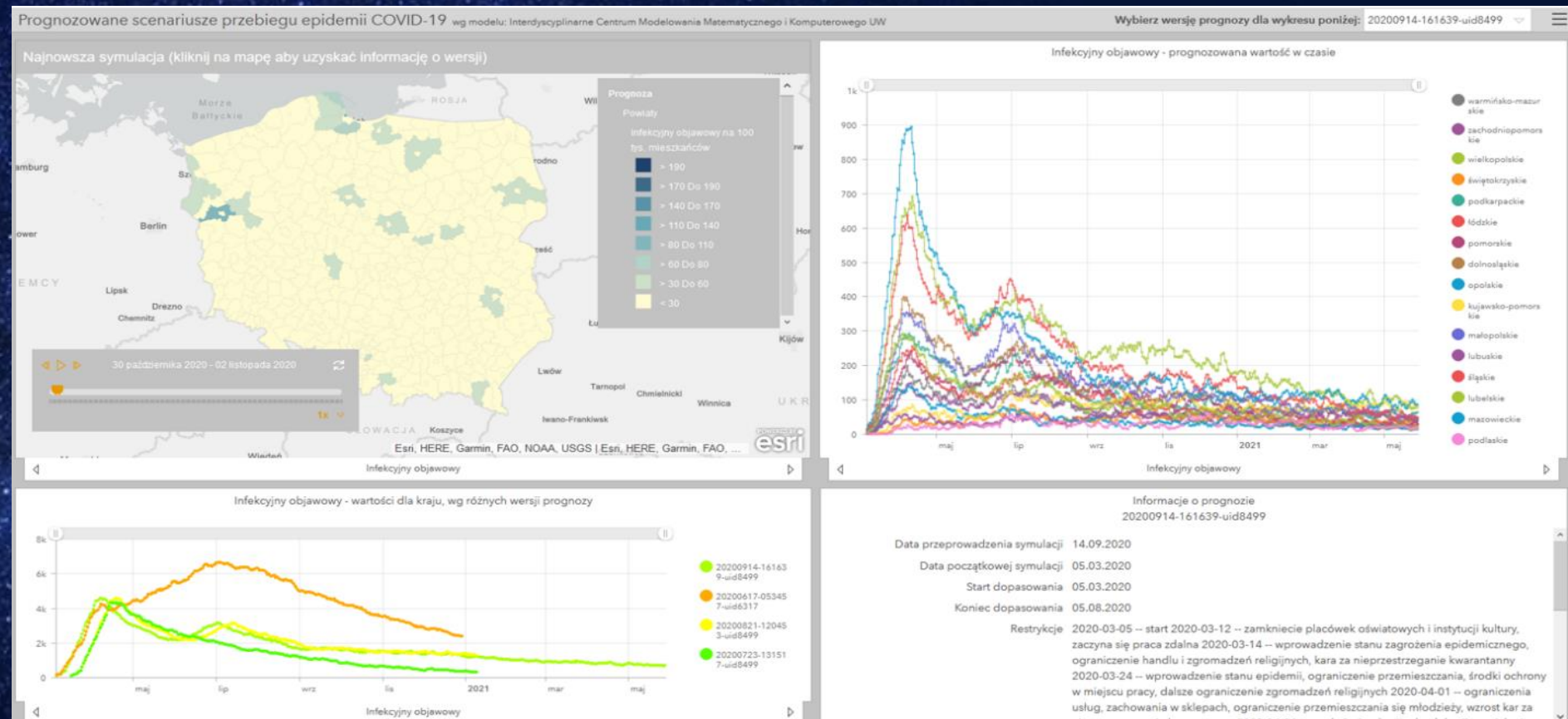
QUARANTINE APPLICATION



Supporting State Services
- providing access to the location of isolated and quarantined individuals

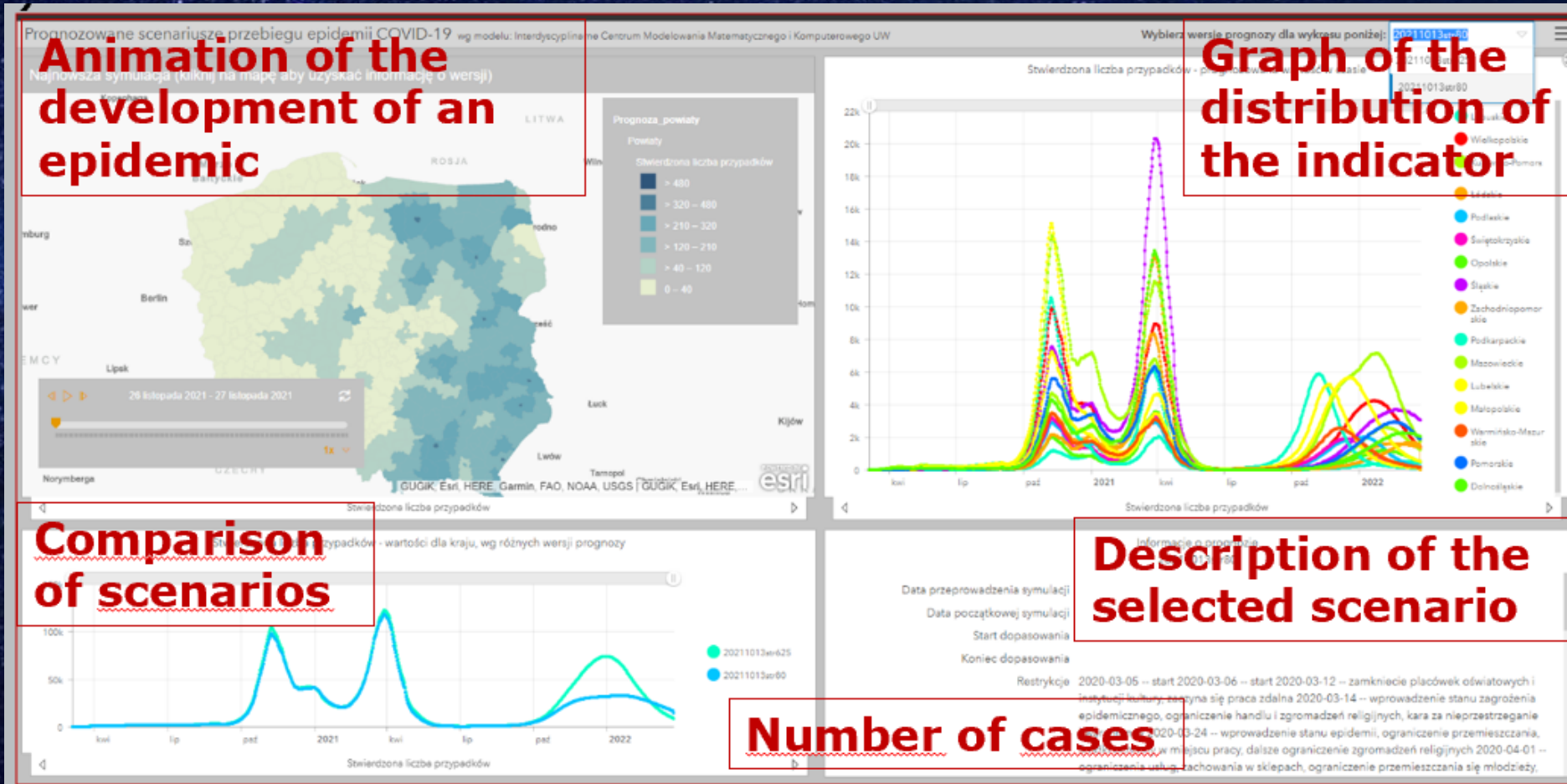
ANALYTICS -
access to historical data.

The Epidemiological Model of the Interdisciplinary Centre for Mathematical and Computational Modelling of UW presented forecasts of the epidemic's spread including: all infected, infected in need of hospital care and in need of intensive care.



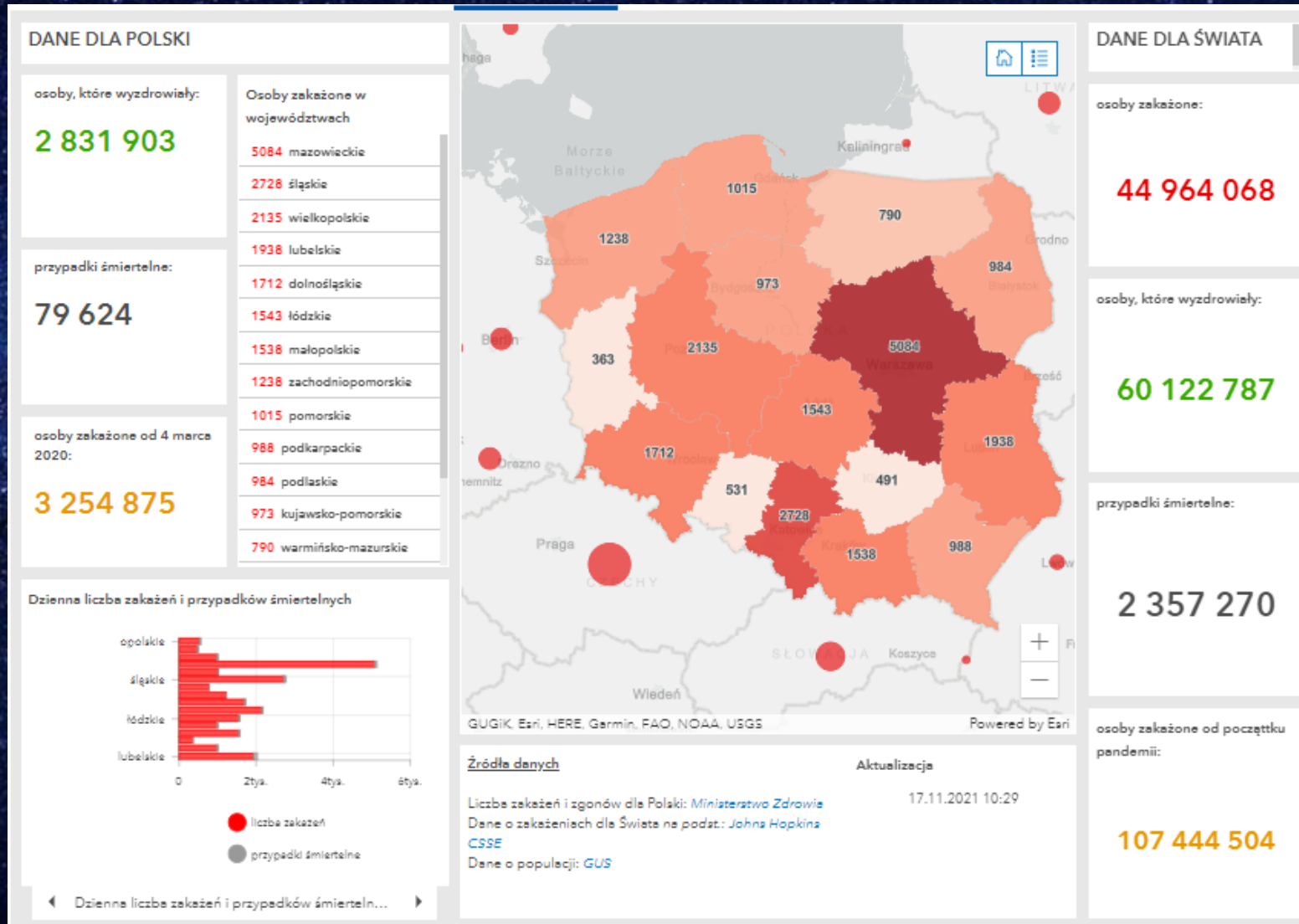
PROGNOSTIC APPLICATION

It takes into account all the implemented restrictions



SUPPORT FOR
DECISION-MAKERS
ON RESTRICTIONS

PORTAL FOR ALL CITIZENS



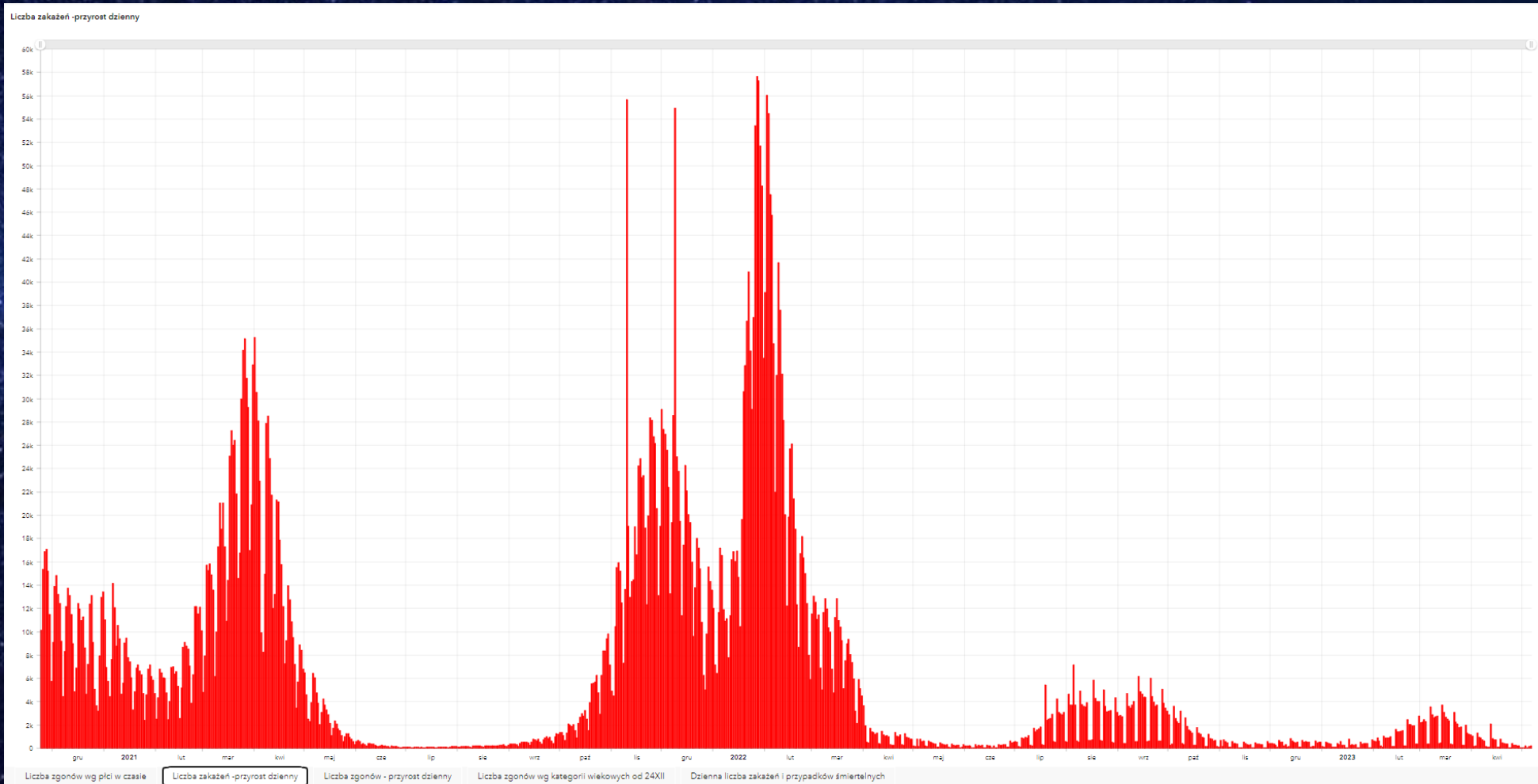
Data on epidemic development and the vaccination process.

Maps and charts are interactive.

Maps can be zoomed in and out and attributes can be read by pointing to selected elements.

PORTAL FOR ALL CITIZENS

Total number of infections - daily increase



PORTAL FOR ALL CITIZENS

E.g. total number of vaccinations, vaccinated people

Szczepienie przeciwko COVID-19

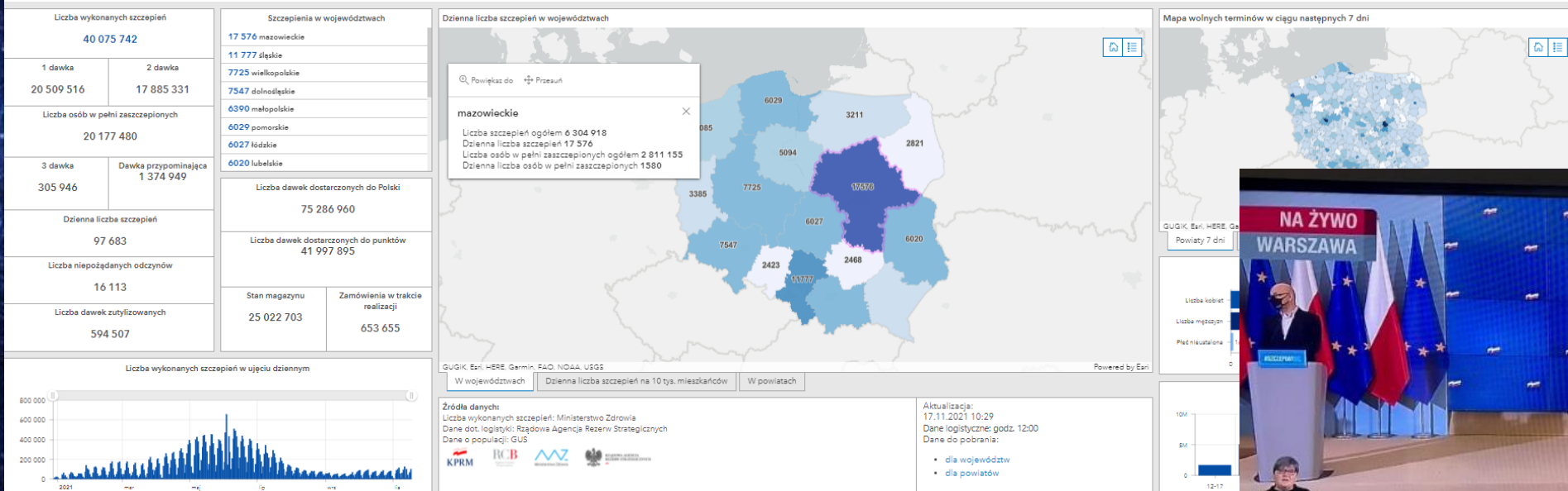
O szczepionce **Jak się zaszczepić?** Aktualności Pytania i odpowiedzi Kontakt

Szczepienie przeciwko COVID-19 > Jak się zaszczepić? > Raport szczepień przeciwko COVID-19

Raport szczepień przeciwko COVID-19

[Tutaj znajdziesz opis metody](#)

Map of county vacancies in the next 7 days and 30 days

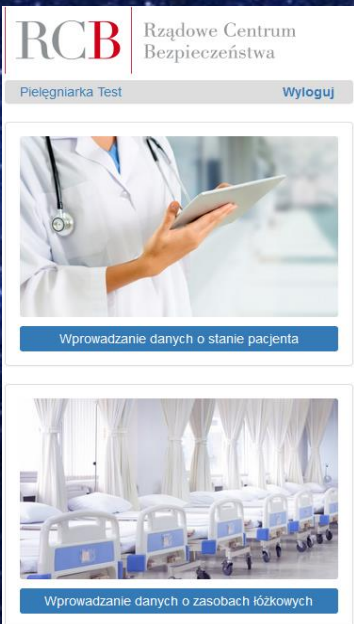


COVID HOSPITAL BED MONITORING APPLICATION

Update the status of vacant beds by monitoring the status of patients health on the spot.

A nurse using a tablet puts in the vital information that directly transfer to the system and gives reliable and aggregated information to other services, for example the regional coordinator of medical rescue.

That way it is very useful tool for ambulance disposers.





GISBN NATIONAL SECURITY SYSTEM



00 Mapa RCB Współpraca
Międzynarodowa



00 Pomoc Ukrainie



04 PESEL



05 SIM

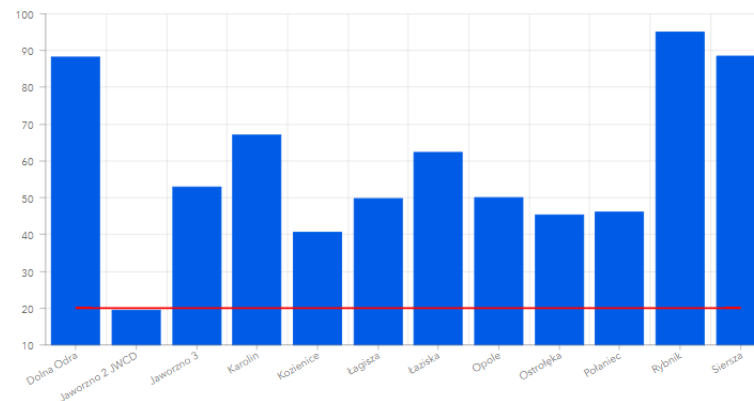
COAL RESERVES IN POLISH POWER PLANTS

Informacja o elektrowniach węglowych posiadających JWCD

Zapasy na dni / Poziom wymagany / Różnica

| | | | |
|-----------------|---------|------|---------|
| Dolina Odra | - 88,25 | / 20 | / 68,25 |
| Jaworzno 2 JWCD | - 19,53 | / 20 | / -0,47 |
| Jaworzno 3 | - 52,84 | / 20 | / 32,84 |
| Karolin | - 66,94 | / 20 | / 46,94 |
| Kozienice | - 40,57 | / 20 | / 20,57 |
| Łagisza | - 49,79 | / 20 | / 29,79 |
| Łaziska | - 62,4 | / 20 | / 42,4 |
| Opole | - 50,04 | / 20 | / 30,04 |
| Ostrołęka | - 45,42 | / 20 | / 25,42 |
| Połaniec | - 46,07 | / 20 | / 26,07 |
| Rybnik | - 95,02 | / 20 | / 75,02 |
| Siersza | - 88,46 | / 20 | / 68,46 |

Zapasy węgla w tonach w elektrowniach posiadających JWCD na dni

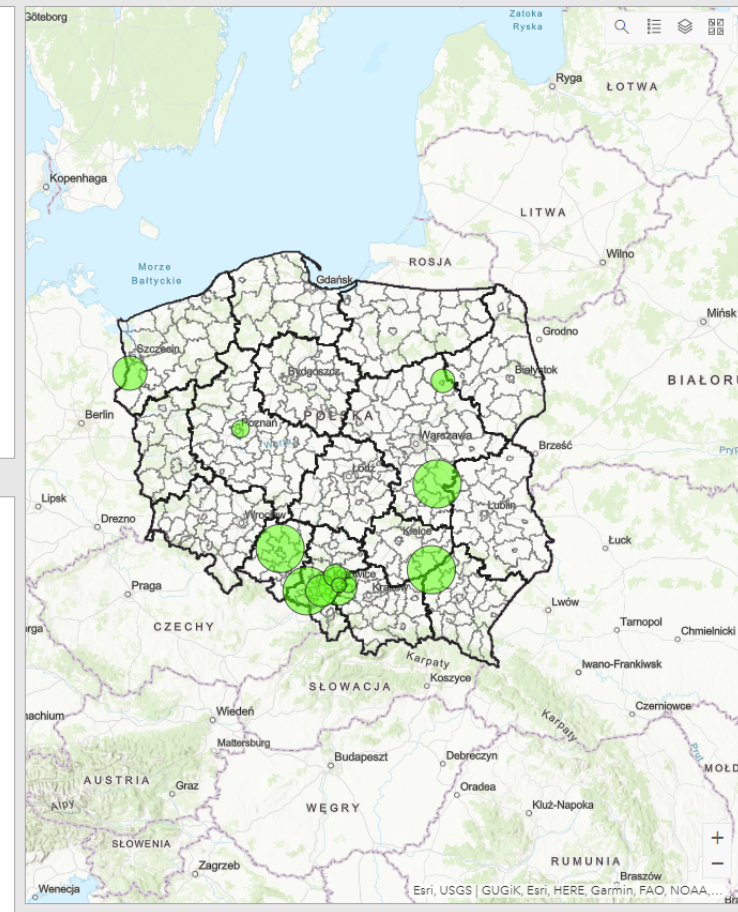
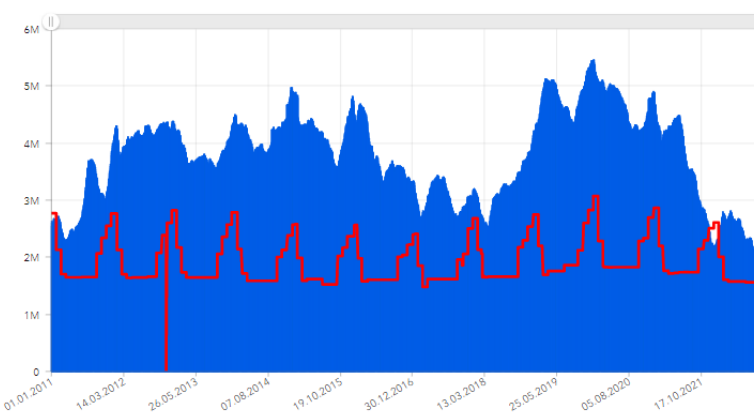


Zapasy dni | Zapasy tony

Zapasy faktyczny / Zapasy obowiązkowy / Różnica

| | | | |
|-----------------|-----------|-----------|-----------|
| Dolina Odra | - 313 284 | / 153 848 | / 159 436 |
| Jaworzno 2 JWCD | - 121 130 | / 66 265 | / 54 865 |
| Jaworzno 3 | - 355 423 | / 145 167 | / 210 256 |
| Karolin | - 147 746 | / 75 699 | / 72 047 |
| Kozienice | - 994 734 | / 607 633 | / 387 101 |
| Łagisza | - 196 804 | / 49 245 | / 147 559 |
| Łaziska | - 287 997 | / 93 203 | / 194 794 |
| Opole | - 738 161 | / 474 740 | / 263 421 |
| Ostrołęka | - 208 945 | / 113 228 | / 95 717 |
| Połaniec | - 529 711 | / 273 911 | / 255 800 |
| Rybnik | - 568 395 | / 246 980 | / 321 415 |
| Siersza | - 123 575 | / 27 695 | / 95 880 |

Sumaryczny poziom zapasów faktycznych i obowiązkowych w elektrowniach posiadających JWCD



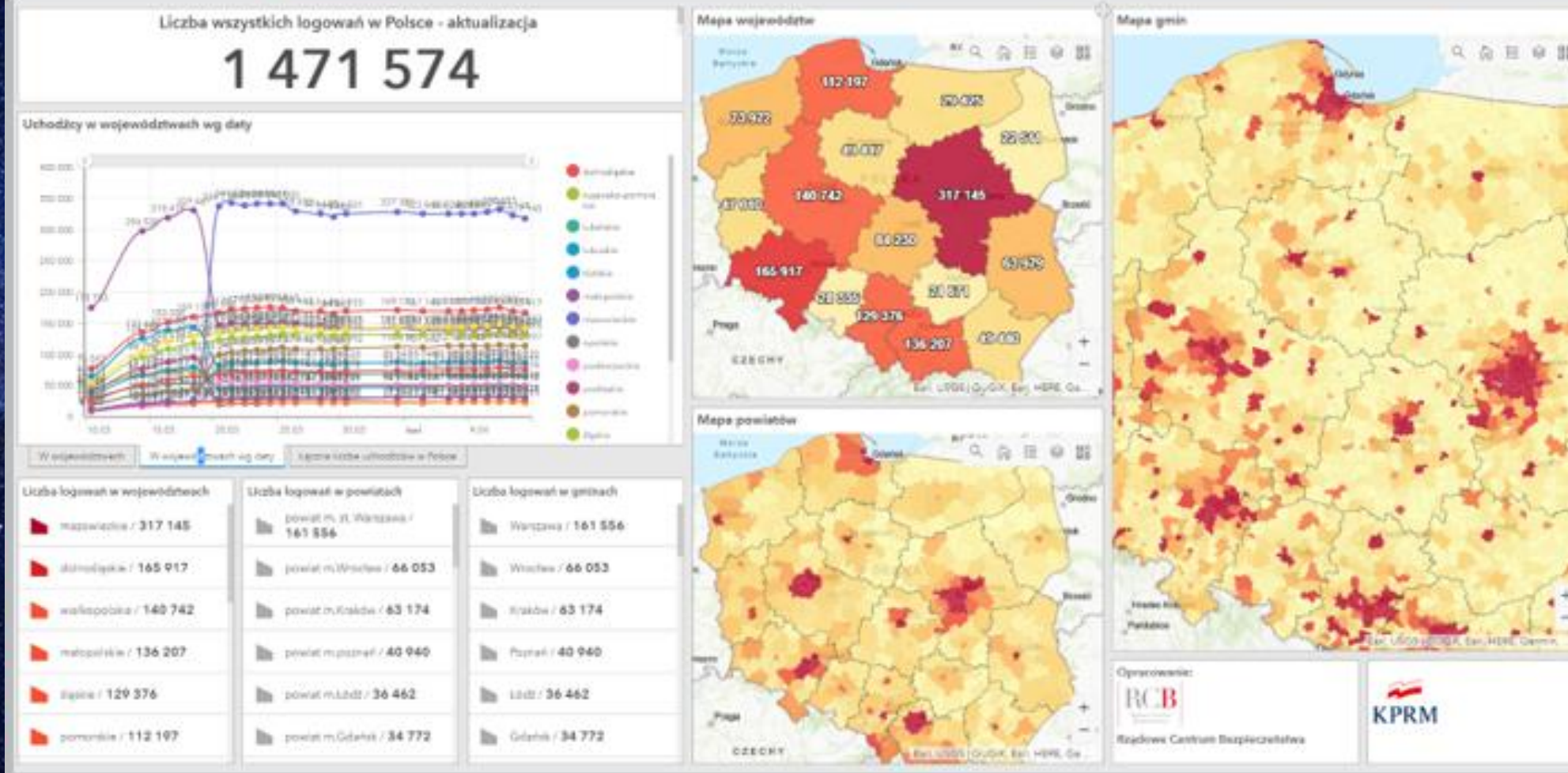
Stan na: 14.03.2023
 JWCD - Jednostka wytwórcza centralnie dysponowana

EVOLUTION TO GISNS NATIONAL SECURITY

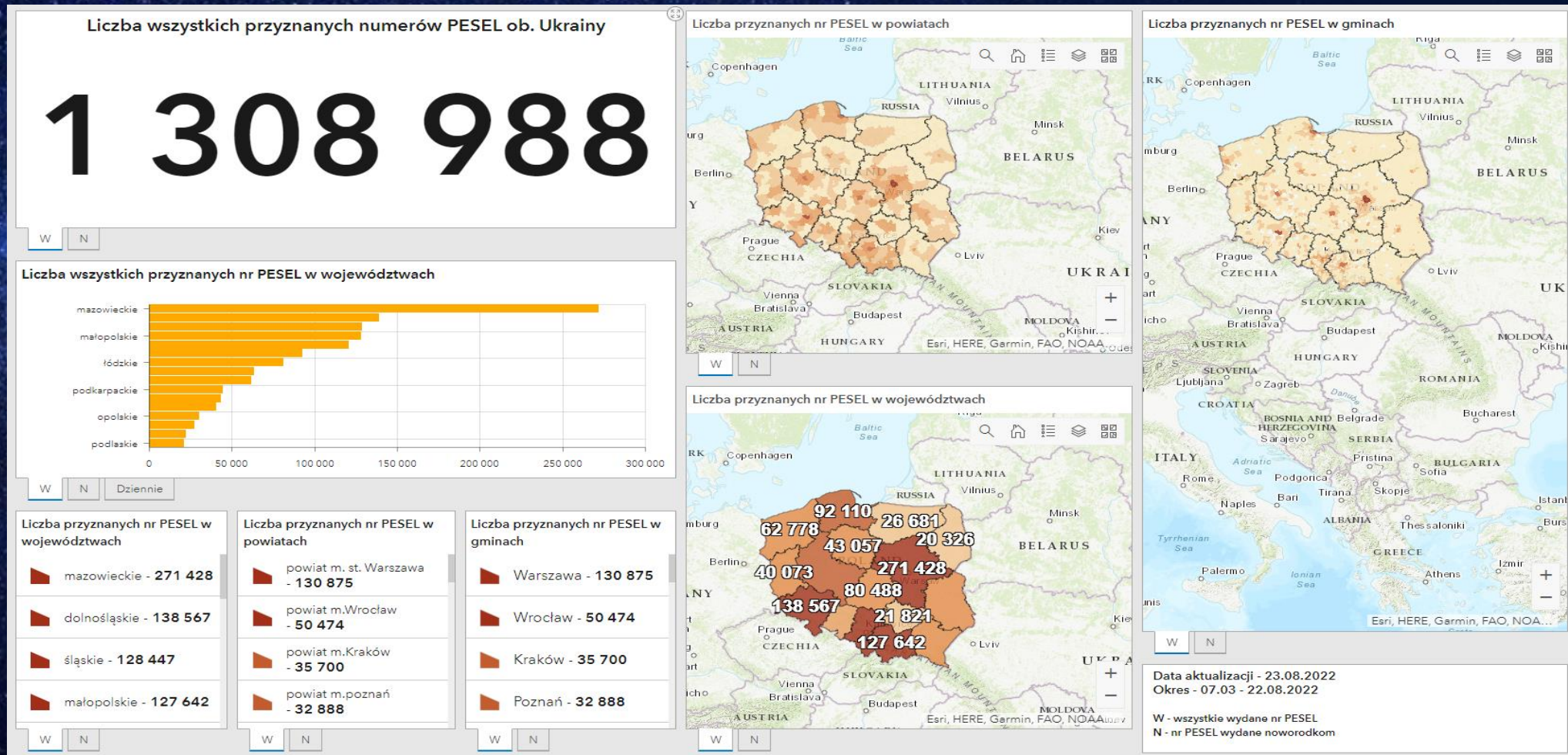
GisNS - situational picture on people evacuated from Ukraine



GisNS - mapping of stay of Ukrainian refugees in Poland



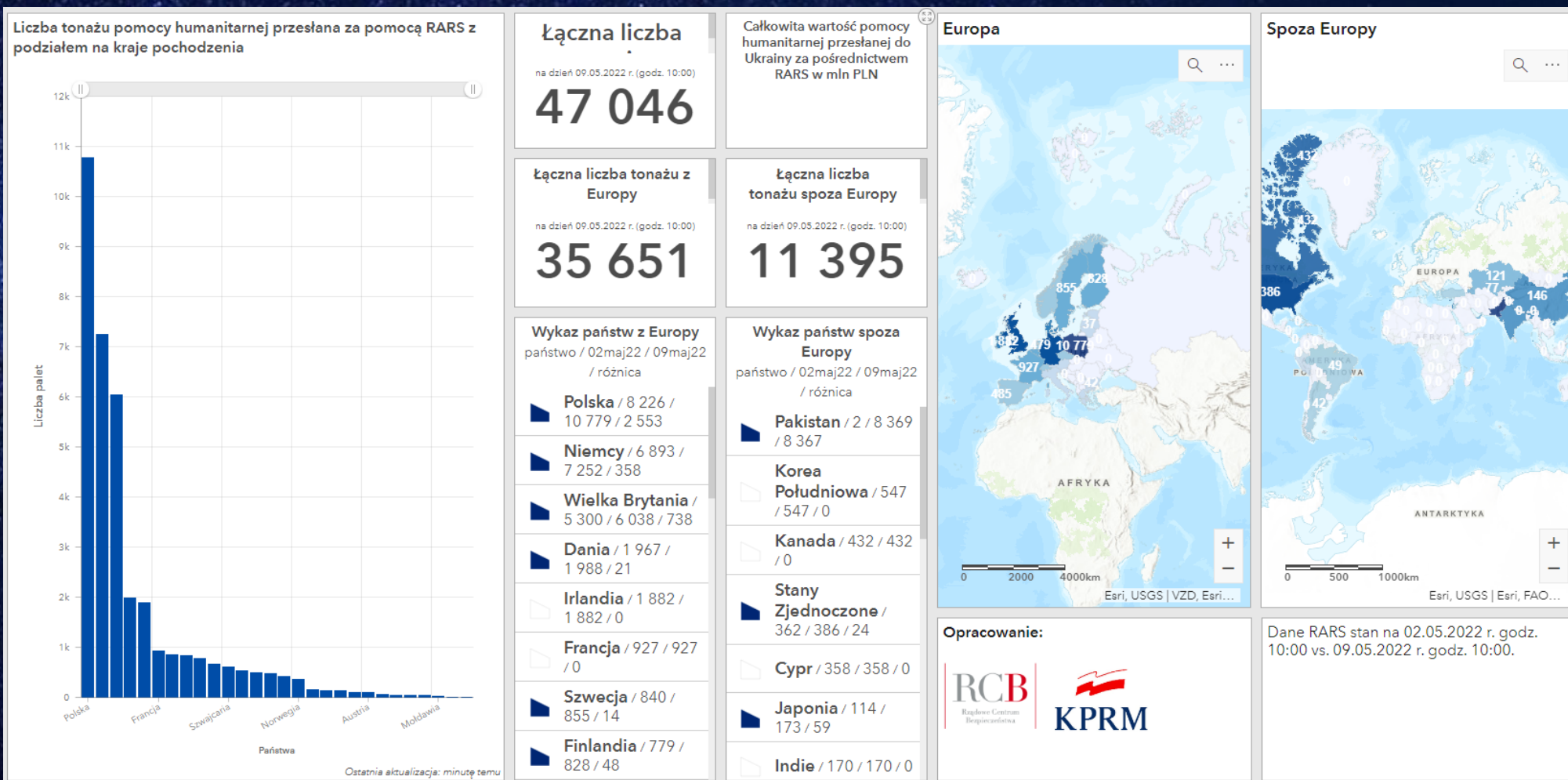
PERSONAL IDENTIFICATION NUMBER - PESEL



GisNS - current military situation in Ukraine



HUMANITARIAN AID SENT BY COUNTRIES VIA GOVERNMENTAL STRATEGIC RESERVES AGENCY (BY TONNAGE)



HUMANITARIAN AID SENT VIA POLISH BORDER

Calkowity tonaż [t] przesłanej pomocy

221 921

Tonaż [t] za pośrednictwem RARS (1)

37 217

Tonaż [t] za pośrednictwem FAST-TRACK (2)

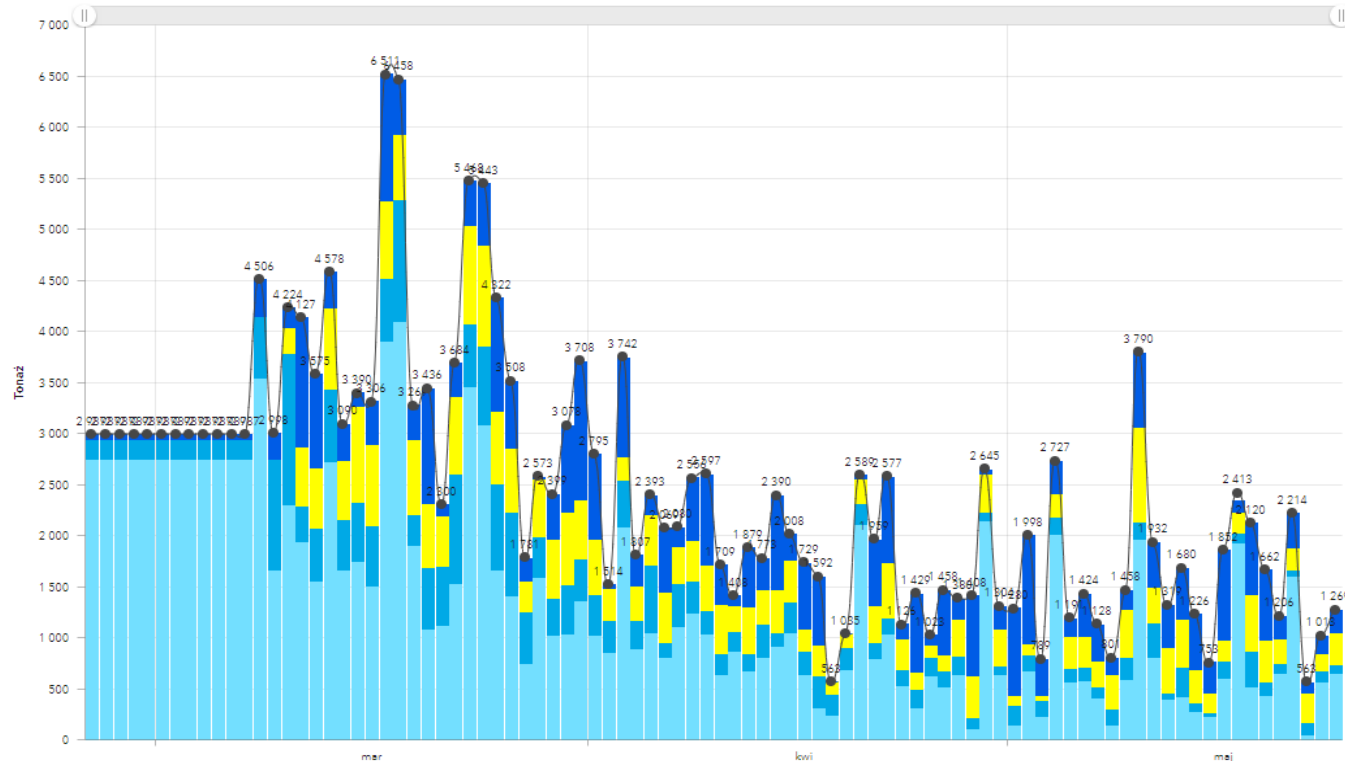
32 215

Tonaż [t] za pośrednictwem Pozostałe (KPH)³

28 949

Tonaż [t] za pośrednictwem Pozostałe (KPH)³

123 479



Opracowanie:



Data aktualizacji:
24 maj 2022 r.

- 1) RARS-pomoc humanitarna dla UA przesłana za pośrednictwem Rządowej Agencji Rezerw Strategicznych(formularz jest dostępny na stronie https://form.rars.gov.pl/pl/donation_form.)
- 2) Fast-Track uproszczona procedura przekroczenia granicy dla samochodów ciężarowych z pomocą humanitarną dla UA (formularz jest dostępny na stronie <https://pomagamukrainie.gov.pl/>)
- 3) Pozostałe (KPH) obejmuje procedurę ustną oznaczoną jako KPH - Konwój Pomocy Humanitarnej

ECOLOGIC DISEASTER ON THE ODRA RIVER

Wybierz datę pomiaru:

14.08.2022

Liczba punktów pomiarowych w województwie

34

Aby zamknąć pełny ekran, naciśnij **F11**

Poziom tlenu rozpuszczonego

● Temperatura wody (st. C) ● Tlen rozpuszczony (mg/l)

● Przewodność [μ S/cm] ● Chlorki (mg/l)
● Sód (mg/l) ● Siarczany (mg/l)

Lista województw

- dolnośląskie
- lubuskie
- opolskie
- śląskie
- zachodniopomorskie

Wykaz punktów pomiarowych

Kanał Gliwicki Pławniowice ul. Nad Kanałem

Temperatura wody 21,7 [st.C]

Poziom tlenu rozpuszczonego 6,8 [mg/l]

Poziom przewodności 5 020 [μ S/cm]

● Poziom 8,2 pH

Poziom siarczanów 540 [mg/l]

Poziom chlorków 1400 [mg/l]

Poziom sodu 954 [mg/l]

Kłódnica Gliwice na wysokości mariny

Temperatura wody 20,4 [st.C]

Poziom tlenu rozpuszczonego 5,2 [mg/l]

Poziom przewodności 4 420 [μ S/cm]

Poziom 7,4 pH

● Poziom siarczanów 500 [mg/l]

Poziom chlorków 1300 [mg/l]

EXAMPLES OF GIS FUNCTIONALITY IN DISASTER RISK REDUCTION



GIS CAN BE USED FOR ALL HAZARDS AND ALL PHASES OF CRISIS MANAGEMENT

What risks await us in the near future?

- □ Global recession
- □ Disinformation
- □ Hazards related to Climate Change
- □ Vulnerabilities of critical IT systems
- □ War escalation
- □ Blackout/energy crisis

CASCADE EFFECTS

Next steps:

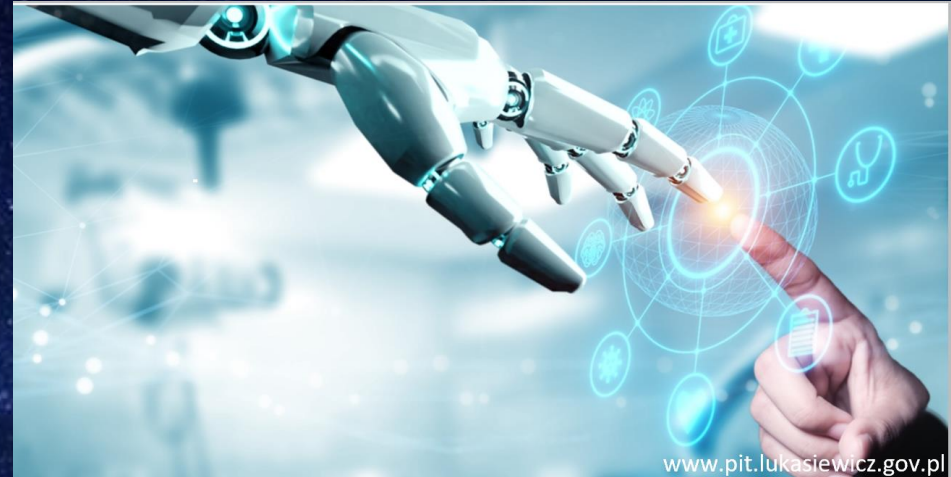
1. Develop GISBN for crisis management system, including CI sector.
2. Creation of a classified data component
3. Integration of the system with the TAK system (Team Awareness Kit/Tactical Assault Kit)
4. New technology to increase preparedness and to build situation awareness:
 - Big Data
 - AI
 - Drones
 - SAT
5. Creation of a platform integrating data from drones and satellite imagery in cooperation with Crisis Information Centre

Video of System GISCOVID-19

<https://www.youtube.com/watch?v=M5A2i4CzVI8>

*"The best way to predict the future
is to invent it."*

Alan Kay



THANK YOU FOR YOUR ATTENTION



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National Security, Risk Management, Civil
Emergency Planning, Building Resilience, GIS



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National Sendai Focal Point for DRR

Advisor & Acting Head of Risk Assessment and
Emergency Planning Unit

GISBN National Security System Manager

Government Centre for Security

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