The importance of geoinformation in crises – Services provided by BKG during the COVID-19 pandemic

"From tracking infections and healthcare capacity to guaranteeing the supply of protective equipment, data visualisation by using BKGs geospatial information is key to knowing where and how the situation is developing. In addition, BKG is responsible for delivering location data about the pandemic situation in Germany, for instance about important infrastructure, such as hospitals and laboratories. BKG also developed analysis between population structure and vaccination centres, which can be quickly integrated into applications for specific users, including the government, authorities and police. This way, BKG provides important assistance to users at federal level to clarify the national situation.”

Professor Paul Becker, President Federal Agency for Cartography and Geodesy (BKG)

By enabling decision-makers to ensure clearer and faster connections between COVID-19 and the local spread, information and other data about the predominated situation is needed. Geospatial information from the Federal Agency for Cartography and Geodesy (BKG) is therefore at the heart of Germany's pandemic response.

The COVID-19 dashboard of Robert Koch Institute (RKI), the government's central scientific institution in the field of biomedicine, shows the advantages of web-based (map) applications, especially in exceptional situations: information can be made available and updated quickly for everyone and is available regardless of location and device. BKG data not only forms the cartographic basis for the RKI COVID-19 dashboard, the Agency also has an important role advising the government on how to maximise the benefits of geographic information. For example, introducing its network of private and public sectors contacts to the Federal Institute for Population Research (BiB) to help its use of anonymous mobility data to calculate the spread of COVID-19 in a forecast model.

Building on the experience gained during the development of the RKI COVID-19 dashboard, BKG is building a similar technical solution – the new BKG GeoHub which will use interactive map displays and diagrams to help users easily understand complex spatial analysis. This will be available to the entire federal administration, its partners at the federal and state levels and the public in 2021.

Benefits

- Fulfills a permanent advisory function on the potentials but also the limitations of geospatial information in conjunction with other technical information in order to make informed decisions.
- Develop individual maps for German security services (e.g. Federal Police) to ensure the transport of vaccination doses to the local vaccination centre.
- Helped to meet demand for hospital beds by analysing healthcare capacity against population demographics at district level.
- Enabled management of border closures and dynamic response to congestion by monitoring at crossings using high-resolution satellite images.
- Supported planning and construction of temporary logistics centres and test stations.
- Provided route planning capability to facilitate transportation of protective equipment.
- Determined where alternatives to the supply of protective equipment to Germany may be required by identifying potential supply bottlenecks in Asian region.
- Lays foundations for new cloud-based BKG GeoHub which uses interactive map displays and diagrams to enable easier understanding of complex spatial situations.

Individual products: Covid-19

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<thead>
<tr>
<th>District</th>
<th>Number of residents:</th>
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<tbody>
<tr>
<td></td>
<td>up to 150,000</td>
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<tr>
<td></td>
<td>up to 750,000</td>
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<tr>
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<td>up to 3,750,000</td>
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Few residents + High proportion over 70

Many residents + High proportion over 70

Few residents + Low proportion over 70

Many residents + Low proportion over 70