



Federal Office  
of Civil Protection and  
Disaster Assistance

# Annual Report

2014

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S EVERY... FIRST FULL EXERCISE BY THE FEDERAL MEDICAL TASK FORCE  
THE SOCIAL WEB +++ **CIVIL PROTECTION AFFECTS EVERYONE** +++ FIRST FULL  
THE SITUATION +++ CRISIS INFORMATION FROM THE SOCIAL WEB +++ **CIVIL**  
RAL MEDICAL TASK FORCE +++ A BIRD'S-EYE VIEW OF THE SITUATION +++



BBK. Working together. Living in safety.

The infographic features a large orange circle on the left containing the title 'Facts and figures'. To its right are two white circles. The top white circle contains the number '1,700,000' in orange and the text 'Assistants work as volunteers'. The bottom white circle contains the number '257' in orange and the text 'Interventions since the NOAH coordination office was opened'. The background is a light gray with a large white curved shape on the right side.

# Facts and figures

**1,700,000**  
Assistants work  
as volunteers

**257**  
Interventions since  
the NOAH coordination  
office was opened

# Annual Report

35,368

Number of deployments by the Federal Ministry of the Interior's civil protection helicopter

1,864,426

Visits to [www.bbk.bund.de](http://www.bbk.bund.de) demonstrate a growing interest in civil protection

10,760

Participants and 356 seminars at the Academy for Crisis Management, Emergency Planning and Civil Protection (AKNZ)

2014



# Contents

- 06** Foreword by Dr. Thomas de Maizière
- 08** Foreword by Christoph Unger
- 10** Training
- 16** Helping
- 28** Protection
- 44** Education
- 48** Research
- 52** International networking
- 58** Design
- 63** Legal notice

**Dear Readers,**

In its 2014 Annual Report, the German Federal Office of Civil Protection and Disaster Assistance (BBK) will be looking back at its main areas of work over the past year with the motto “Those who are informed can protect themselves”. One important area was the further technical development of our warning and public address system. The modular warning system (MoWaS) has been deployed at the federal and state level since July 2013. At both levels, the system can issue georeferenced warnings that are transmitted via satellite to radio, TV, paging systems, the Internet and Deutsche Bahn AG’s loudspeaker system within a matter of seconds and can be distributed to a wider network from there. Last year, the BBK worked on adding another warning tool to this system that can reach the targeted individuals instantly and create a true alert effect. The NINA warning app allows MoWaS to send warnings and additional instructions directly to the affected population.



## Foreword

by Dr. Thomas de Maizière, MdB  
Federal Minister of the Interior

The correct conduct can prevent damage from occurring, or at least limit the extent of such. The population’s ability to protect itself and to help others in the event of a damage incident forms the basis of civil protection and disaster management, because people will be forced to look after themselves until professional help arrives. The BBK offers many opportunities to help improve these skills, from first-aid courses on self-protection and public information material – i.e. the “Disaster Alert” brochure – to the “Rettet die Retter” (“Rescue the Rescuers”) DVD project and the “Max und Flocke” website designed specifically for children. This material will be expanded, because self-protection and self-help are central issues for the future work of the BBK. They are also becoming increasingly important, as demographic change affects the availability of incident workers in our volunteer-based civil protection and disaster management organization.

Supporting this volunteer work has been and remains a central task for the BBK, and a research project on securing these volunteer structures in the long term was conducted in 2014, initiated by the federal government and supported by the BBK. The findings indicated that we are on the right track in many areas, for example by developing partnerships between the participating organizations and with organizations in other volunteer-based sectors.

In addition, support and recognition for volunteer work is not a new focus, but an important recommendation. Every year the Federal Ministry of the Interior recognizes outstanding projects in the area of volunteer civil protection with the “Helping Hand”

*“Those who  
are informed  
can protect  
themselves”*

prize. This enables us to publicly acknowledge the work of the volunteers and to publicize good ideas. I awarded the prize personally on December 1, 2014, and am already looking forward to “Helping Hand 2015”.

Through its institutions and expertise, the BBK helps all the states in Germany prepare for and efficiently manage major damage incidents and the agency also works internationally. The most popular areas are providing protection against chemical, biological, radiological and nuclear dangers (CBRN protection) and developing voluntary assistance structures. Some important programs last year included projects with Tunisia and Jordan that focused on training special incident forces and multipliers.

The BBK also does important work in the area of psychosocial emergency care through the central Coordination Office, which provides aftercare and support for Germans and their relatives who experience serious accidents or terrorist attacks while abroad (NOAH for short). The agency handles the important interface between international and domestic German affairs and was involved after the recent Germanwings plane crash in France, for example.

Even on the day of the tragedy itself, employees began coordinating psychosocial emergency assistance in Germany. For two weeks, experienced psychologists were available to provide support to German nationals at the accident site at all times and at the family support center on site, with special back-up over the Easter weekend. Psychologists coordinated by NOAH gave support at the first gathering of the family members in early April, and also during the central commemorative service in Cologne Cathedral on April 17, 2015. In addition to the activities of the Identification Commission (IDKO) of the Federal Office of Criminal Investigation on site in France, NOAH’s task of supporting family members of victims during this painful change in their lives is a very challenging one and this work deserves to be acknowledged.

I want to extend my warm thanks to the BBK employees for all their efforts during the past year. I wish you and us all the best, and great success for the work we will carry out in the future!

Yours sincerely,



Dr. Thomas de Maizière, MdB  
Federal Minister of the Interior



## Foreword

by Christoph Unger, President of the  
German Federal Office of Civil  
Protection and Disaster Assistance

Germany is the soccer world champion! The BBK was part of the tournament in Brazil right from the start – just a few months prior to the kickoff we worked with numerous partners to make sure that the Brazilian World Cup cities were prepared to handle major damage incidents. The focus here was on stabilizing the emergency chain from the damage site to the hospital in the event of a mass casualty incident. As a result, we developed a strong partnership with our Brazilian colleagues, providing them with support for dealing with Ebola for example.

Last year in particular, we saw how important international cooperation can be regarding civil protection when we were able to continue our successful project with Tunisia. A joint project with the Jordanian civil protection and health authorities was also launched to help improve their local protection against C threats. The experiences we gained in the process provided the basis for initial coordination talks about a similar project in Ukraine, which will also focus on handling C situations.

Besides the current developments in Europe and the world, in 2014 we started to critically review our understanding of the BBK's original area of responsibility – namely civil protection in accordance with Article 73 of the Constitution, and to adapt it for new scenarios. We will therefore be updating the conceptual and legal foundations of civil protection and civil defense accordingly.

A very different kind of threat is the Ebola epidemic in West Africa and the resulting worldwide risks can only be contained at the place of origin, which makes the selfless work of many volunteers from aid organizations like Doctors Without Borders, DRK, and THW all the more laudable. The BBK itself was not active on site, but was able to help THW provide psychological support for assistants and their families. The shattering images from West Africa and the news about infections in Spain and the United States were bound to cause anxiety in our country too and the fear of risk of potential infection was great among the population, employees and refugee institutions.



*“We will be updating the conceptual and legal foundations of civil protection and civil defense”*

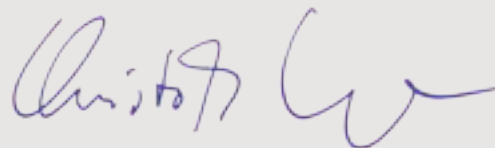
Against this backdrop, within weeks the BBK collaborated with the Robert Koch Institute to organize a high-profile conference on how to tackle Ebola. Owing to the small number of cases, it is clear that we can easily contain Ebola in Germany within the scope of the federal distribution of responsibilities. However, from the perspective of interdisciplinary civil protection, which is based on the idea of a system of networked safety, it is essential to address this issue early on. At the same time, the Ebola headlines should not distract us from other dangerous infectious diseases that are on the rise globally; malaria and dengue fever claim many more victims worldwide than Ebola for example. Thus the latest Ebola outbreak can be seen as a warning that clearly demonstrates the immense potential threat from this type of danger.

We had another important positive event in 2014: the BBK celebrated its tenth birthday. For me, it was a wonderful occasion to thank all the agency’s members, friends and supporters, partners and constructive-critical companions for their help. Together we were able to achieve significant progress with the “New Strategy for Civil Protection in Germany”. Last year we were also honored to welcome the German Chancellor as a special “birthday guest” when Dr. Angela Merkel visited us here in Bonn and expressed her appreciation for our full-time and voluntary assistants, to the great delight of everyone at the BBK.

I hope you enjoy reading this year’s report.

Yours sincerely,

Christoph Unger  
President of the German Federal Office of Civil Protection and Disaster Assistance





# Training

Prepared for any emergency



### **Training even for the unthinkable**

In 2014, we celebrated the anniversary of a major project – LÜKEX, the national crisis management training program. For ten years now, it has implemented a strategic training concept that focuses on the highest-level crisis management groups in Germany and the federal states. LÜKEX has become a permanent building block in national crisis management, and 2014 was also an important year for implementing our operational skills. The federal Medical Task Force organized a large-scale practical training event to see how well its strategies could manage a mass casualty incident. In addition, the training tested new methods for collecting information, i.e. adding important facts to the information to gain an accurate overview after a major explosion.

# 10 years of LÜKEX

A success story celebrates its anniversary

LÜKEX is different from other disaster management training programs, because rather than focusing on operational crisis management, it works to improve communication and decision-making processes between governmental and non-governmental actors at the highest strategic political level. The main aim of LÜKEX is to review the overarching response

capacity during unusual crisis situations using a sample practical test. The exercises also help develop clear and effective coordination and decision-making processes between federal and state authorities, commercial enterprises, research institutes and other cooperation partners. The LÜKEX training program is held every two years using a specifically designed crisis scenario.



**W**hen the first LÜKEX training was being planned a decade ago, there were some skeptical voices: a winter so severe that the entire power grid would collapse? That could never happen in Germany. And yet a short while later, in early December 2005, that precise crisis scenario played out for real in the Münsterland region.

It had been snowing constantly for twelve hours, and the entire region was covered in a blanket of damp snow. More than 80 power poles collapsed under the weight of the snow and ice, resulting in the largest blackout in Germany's history. A quarter of a million people suddenly found themselves without power – some for several days.

#### **From terrorist attacks to pandemics**

Since then, six other LÜKEX training exercises have been carried out successfully on a wide range of scenarios including a terror alert during a large event and attack threats with conventional or “dirty” bombs, a worldwide influenza pandemic and cyber-attacks on critical infrastructures such as the water or power supply. The last training program in 2013 focused on a biological crisis scenario.

Preparations are already underway for the next LÜKEX training program in November 2015, which will be coordinated by an interdisciplinary project group within the BBK. The thematic focus this time will be a flood after a North Sea storm, so the core group of trainees for LÜKEX 15 will be the coastal states of Bremen, Lower Saxony, Hamburg and Schleswig-Holstein. It will also involve five inland states and states on the Baltic rim that could be hit by cascade effects after a disastrous North Sea flooding event. At the federal level, participants will include the Transit and Defense departments and the Ministry of the Interior. Further participants will be added during the planning period.

The fictitious storm scenario will be designed in such a way that the affected states would not be able to handle the disaster alone. As we have seen in real life, crisis situations often occur that would have been viewed as utterly unrealistic; the nuclear reactor disaster in Fukushima being just one example. Until March 2011, very few could have predicted that kind of disaster, and this is why we also take the unthinkable into consideration when selecting the scenarios for LÜKEX. There is also another reason: if the responsible crisis management groups could work together smoothly in such extreme situations, then they would certainly be able to act together effectively in less severe crisis situations.

#### **The credo: jointly creating safety**

The LÜKEX concept is based on the idea that crisis management can only be successful and sustainable if all the participants cooperate within a network. This not only applies to government actors, but also to commercial enterprises and the operators of critical infrastructures or associations, as well as scientific and research organizations. The number of participants alone makes LÜKEX a major project of impressive dimensions: the actual training, which generally takes place every two years in November, involves up to 3,000 participants, and these main training days represent merely the highlight of a long training program. The preparations and subsequent follow-up phase regularly involve several hundred high-ranking representatives from various organizations who attend numerous meetings, conferences and workshops. In addition to its technical findings with respect to making crisis management more effective, LÜKEX thus has another important effect – namely developing a nationwide network for crisis management in Germany.

**Medical aid in the event of a disaster**

A German army training area near Potsdam was the setting for the first practical test of the federal Medical Task Force’s (MTF’s) “Flinker Oktopus” (“Quick Octopus”) training session during the last weekend in October 2014. The scenario: a serious explosion has occurred in a fertilizer plant and around 120 people have been severely injured. The local first aid responders urgently need support, so they alert units of the MTF.

The military training area near Lehnin, in the Potsdam-Mittelmark district, provided the perfect backdrop for “Flinker Oktopus”. Although there is no fertilizer plant here, it offers a realistic scene of a destroyed city. Around 130 assistants from Brandenburg, Berlin, Rhineland-Palatinate and Hesse met in a nearby barracks building on Friday, October 24, where they were briefed on the training content and the planned sequence of events. The aim of the practical test was to trial the best way to tend to the injured in this kind of



A view of the finished treatment facility

severe damage incident. The MTF’s theoretical strategies were put to the test in Lehnin for the first time –

while the training guidelines and equipment provided by the federal government also had to prove their suitability and functionality in this practical test.

**Incidentally: why do we need the MTF?**

The task of the recently created MTF units is to provide preclinical care for sick and injured people in the event of a disaster incident or a civil protection event. The Medical Task Force is designed for assignments within Germany, in dynamic areas with care levels 3 and 4 and is particularly active when infrastructures have been destroyed and the local response teams are no longer functioning. There are now 61 emergency service incident groups nationwide staffed by medical personnel, each consisting of the following five sub-units:

- Management
- Decontamination of injured people (Dekon-V)
- Treatment
- Patient transport
- Logistics.

The sub-units of management, treatment, and patient transport are almost complete in terms of design concepts and training content, and the “Flinker Oktopus” hands-on training was designed for these units. The BBK is currently working closely with experts from aid organizations and fire departments at pilot locations in various federal states to design detailed concepts for the Dekon-V and Logistics sub-units. Dekon-V is scheduled for completion in mid-2015 and the Logistics sub-unit is anticipated to be ready for operations in late 2015, since its groundwork will be designed based on the results from all the other sub-units.



An emergency crew unloads equipment for an ad hoc treatment facility

Who needs the most urgent medical care?  
A ticket system with color coding provides  
a quick overview.



### Because every minute counts

It's Saturday evening and time to get started: an alert came in for MTF 34. The assignment was to drive to the damage site or damage region, contact the local incident command facility, and prepare for a possible medical disaster damage situation. After their arrival, the operations group explored the site and chose a suitable spot for incident operations and for a treatment facility (TF). The assistants then arrived with incident vehicles, constructed the TF, and reported it ready for operation. No sooner was that done than the first injured people were transported in ambulances, rescue vehicles and on stretchers from MTF 17, 19, and 40. The triage process could now start for the extremely realistically made-up actor casualties. The aim was to set transport and treatment priorities and start administering medical treatment or transporting mobile patients to nearby hospitals.

The first responders had already assigned the casualties to one of four examination categories, and identified them using color-coded cards around their necks: green for minor injuries, yellow for moderate (life-threatening) injuries, red for severe (acute life-threatening) injuries, and blue for injuries so severe that the patient's only chance of survival would be to receive urgent intensive medical care. The first responders' triage decisions were double-checked in the TF's examination tent, so for example if a casualty with examination category green with a broken leg was now complaining of numbness in his uninjured leg, this would mean a suspected spinal injury, and the category would change to red. Meanwhile, an efficient ticket system ensured that the central coordination office was informed immediately and could commence swift medical care or transport to a hospital. By early evening, 18 ambulances had brought a total of 87 injured people to the TF for an initial examination, and the training coordinators announced the end of the practical test just after 6 pm.

### Framework concept that has proved successful

On the morning of Sunday, October 26, all the incident staff assembled again for an initial evaluation. Based on a later detailed evaluation, we now know that the joint conceptual work of the MTF pilot sites and the responsible BBK office passed its first practical test with flying colors. Many of the detailed findings from further evaluation steps have also been included in additional training for association leaders and the medical heads of the MTF at the Academy for Crisis Management, Emergency Planning and Civil Protection (AKNZ) both implemented in the MTF framework concept, and in the recommended actions for the TF. The training session also confirmed the importance of inter-organizational partnerships with aid organizations during medical disaster incidents. The dedication of the many voluntary training participants was a crucial factor in the success of "Flinker Oktopus".

There is also a good reason for using this eight-armed sea creature as a mascot for the first MTF practical test: researchers say that octopuses are surprisingly intelligent. They learn not only through conditioning, but also through observation – which explains their astonishing ability to solve problems in a range of situations. The adjective "quick" was added because MTF is helping to save people's lives and health, so every minute counts.



# Helping

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Find out more quickly what is happening



## An overview with shifting perspectives

In the event of a flood, major fire or earthquake, the sooner rescue workers can get reliable information about the surrounding traffic conditions, the sooner they can be on site and start providing assistance. In close cooperation with business and research partners, the BBK is breaking new ground to gain a quick, accurate and current overview from various perspectives in crisis situations.

Last year for example, we successfully tested newly developed camera systems during training exercises. However, technologies like 3D printers, which are not directly related to gaining an overview, can also be a crucial element to establish the overall picture. Social networks are also becoming increasingly important, not just for communicating with the population regarding a crisis, but also for gaining new perspectives on the current crisis events. All of this creates the new “Overview 2.0”.

### A bird's-eye view

The German Federal Office of Civil Protection and Disaster Assistance (BBK) also used the “Flinker Oktopus” training exercise by the Medical Task Force (MTF) to test new ways of providing information for crisis management. For instance, a helicopter from the German Center for Air and Space Travel (DLR) provided a bird's-eye view of current traffic and site information during the exercise. The BO-105 helicopter was equipped with an onboard, high-resolution camera system and sent images to a mobile ground station almost in real time. Additional technology such as terrestrial sensor systems, GPS tracking, and webcams was also used.

The task of the system is to provide crisis management groups and incident staff with precise traffic and environmental information without a time delay. In the event of a disaster, but also during large-scale events, it is essential to have a functional traffic system to enable rescue workers to reach the incident site as quickly as possible and transport injured people to the nearest hospital just as swiftly. In addition, it is important to maintain the surrounding traffic flow to ensure the mobility of the population and normal business activities.

The BBK tested not only proprietary sensor technology during the MTF exercise, but also the associated data transmission paths. The BO-105 sent the aerial images directly to the incident commander via a microwave connection. The incident commander then used the images to provide additional information to assess the situation and added them to the digital map elements on the monitor. The helicopter spent a total of three hours circling the incident site and cameras on the ground and a drone equipped with a camera provided different perspectives of the training events.

### Social networks as a source of information

Crisis maps from the Internet may be an unconventional idea, but geodata provided spontaneously by large numbers of voluntary assistants on the net can play an important role in creating a comprehensive overview during crisis situations. The 2013 flood made it abundantly clear that many people in Germany are willing to help in this way, and anyone could use Google Maps to view flooded areas around Dresden, Magdeburg, and Halle an der Saale. The underlying cooperative principle of crowdsourcing has long been common practice in social networks, and collective updates to a geographic database are by no means a new phenomenon in the Web 2.0 community, as we can see from the collaborative “OpenStreetMap” project.

Freely accessible crowdsourcing crisis maps were made in 2010 during the earthquake disaster in Haiti for example, when volunteers used satellite images to map the capital city of Port-au-Prince. A virtual team of helpers in Boston used digital map elements to combine the information collected on site into a comprehensive overview. The Boston helpers remained in constant contact with the victims in Haiti via Facebook, Twitter, and text messages to coordinate the aid services more efficiently.

### How valid is the information from Web 2.0?

For official agencies and organizations with safety responsibilities, Web 2.0 crisis maps created collectively are an additional and useful source of information for completing the overview. Conversely, they can be used as a communication medium to provide information to the population during crisis incidents. However, it does raise the question of how reliable information can be if it is gathered largely by laypeople and there is also a risk of intentional manipulation of publicly accessible crisis maps to redirect certain aid services for another individual’s personal benefit. Moreover, legal aspects like data privacy and licensing rights must be taken into account in this context. The BBK has been investigating the potential of public crisis maps using scientific methods since 2014, the objective being to issue reliable statements about the opportunities and limitations of using crowdsourcing for official information-gathering.

### A shared look at the crisis events

The BBK has been using the emergency care information system deNIS IIplus since June 2006 to provide crisis management groups with the best possible support to create an overview of the situation. This solution was designed specifically for decision-makers at the federal and state levels to optimize crisis manage-



A bird’s-eye view: helicopters and drones enhance the overview of the situation



Top: A camera drone takes off to survey the incident area  
 Bottom: Information from various sources is combined to form a digital map

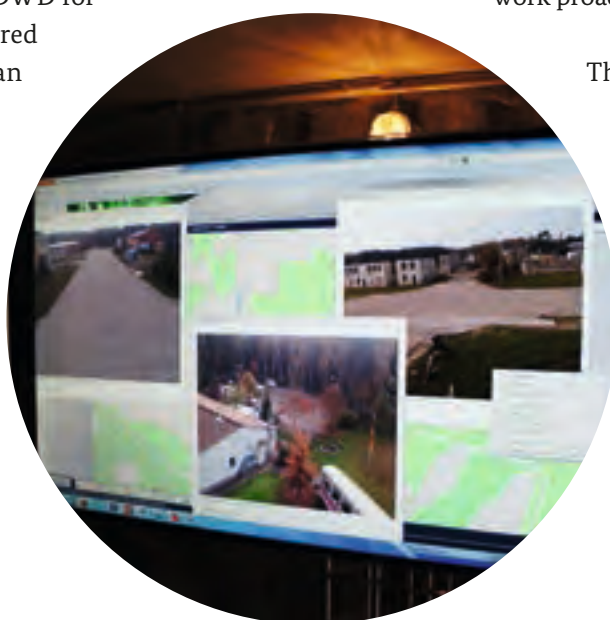
ment across locations in the event of wide-scale damage incidents. Naturally, the more informative and current the underlying database is, the better this works, so as we develop the system further one important focus will be on integrating additional information.

In particular, new geodata sources were included last year, and data from the German Weather Service (DWD) was added in 2014 to provide more valuable and up-to-date information about extreme weather conditions. The DWD transmits measurement data to the BBK around the clock via a secure data line. Here, a lock computer first checks weather data before it reaches the protected deNIS IIplus system. In the system itself, storm warnings from the DWD for example are shown as colored surfaces on the map and can also be retrieved as text messages if necessary. In addition, radar precipitation images are uploaded to deNIS IIplus every 15 minutes. Satellite images have also proved helpful, because during a flood for example they are

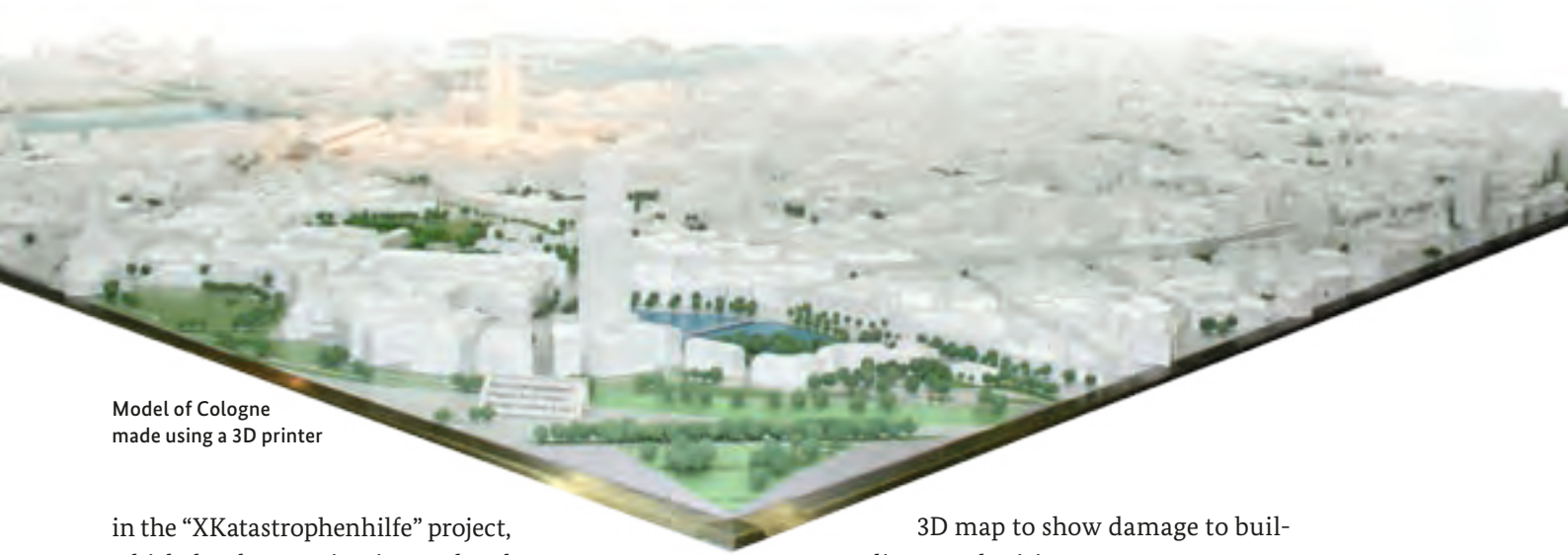
shown on digital maps as “flood masks,” allowing users to see the extent of the flooding at a glance.

#### Damage trend dynamics are made visible

In using satellite images, the BBK works closely with the Center for Satellite-Based Crisis Information, ZKI, which is part of the DLR. The deNIS IIplus system was used to establish an electronic network at the highest administrative level, which has significantly increased the amount of information that authorities exchange internally during unusual threat situations. One specific advantage for evaluating the situation: deNIS IIplus allows users to map the dynamics of the damage trend in a timely manner so that crisis management groups can work proactively.



The ability to exchange data among various IT systems across national and state borders is becoming increasingly important to ensure effective cooperative crisis management. As a result, data standardization is a high priority for the BBK and this is reflected, among others,



Model of Cologne  
made using a 3D printer

in the “XKatastrophenhilfe” project, which develops, maintains, and updates a universal data exchange interface (Extensible Markup Language – XML).

### 3D printers for civil protection?

Many people are fascinated by 3D printing which can create almost any shape of object by layering materials from a computer-controlled nozzle and, similar to conventional laser printing, the process has long been used in dentistry to create crowns and inlays. According to experts, the ability to create a range of components with a computer practically ad hoc, also provides enormous potential for industrial manufacturing, as unique items would no longer have to be more expensive than production line-manufactured products. Even prosthetics from a 3D printer are no longer something out of science fiction: in Dortmund’s Orthopedics Clinic for example, the technology for individually manufacturing artificial knee joints with 3D printers has made enormous advances.

However, few wonder how civil protection could benefit from 3D printing – which is unfortunate, as the BBK’s evaluations from last year demonstrate. In disaster areas, medical treatment for the injured could be significantly improved with 3D devices created on site. In addition, 3D technology literally offers new perspectives for analyzing sites in crisis situations: in theory, 3D models of the incident area could be made spontaneously as a relief-style map section using a 3D printer, i.e. on the basis of the latest aerial images, transmitted in real time by a camera drone. That would allow the

3D map to show damage to buildings, and crisis management groups could plan their aid and rescue activities much more precisely in advance using 3D representations.

In addition, there is the very promising potential of manufacturing incident-specific devices according to the specific on-site requirements. Since 3D printers can also create completely closed bodies they could, for example, be used to make sturdy casings to protect sensitive sensors from external influences like water, aggressive chemicals, and extreme dust exposure. In theory, they could even make robot-like machines, depending on the particular situation; one useful application scenario for these 3D robots would be exploring the site in the event of chemically, biologically or radioactively contaminated terrain.

#### Introducing “XKatastrophenhilfe”

Germany uses a wide range of IT systems for crisis management and the federal government, states, and municipalities to process the relevant data in different formats. However, a comprehensive information platform for civil protection depends on exchanging data across agencies and system boundaries. The tried-and-tested method for this is an integration interface that acts as an interpreter to help two heterogeneous IT systems communicate; this is precisely the task performed by the XML interface “XKatastrophenhilfe”.



The Ebola virus: this pathogen, a member of the filovirus family, can also be transferred between animals and humans

#### **Preventative hygiene for disease control in Germany**

The Ebola fever epidemic is still raging in West Africa, and started as early as late 2013 in Guinea. It spread to Sierra Leone through Liberia and reached Nigeria in July 2014. Senegal reported one case on August 29, 2014, but it did not result in further infections. Since the start of the epidemic, the World Health Organization has recorded well over 26,000 cases of the illness or suspected cases. Roughly 8,000 people died of Ebola in West Africa in 2014, and the number of victims had risen to nearly 11,000 by early April 2015.

Even though we cannot rule out the possibility of importing individual cases of the illness, the Robert Koch Institute in Berlin (RKI) and the Bernhard Nocht Institute for Tropical Medicine in Hamburg agree that the population of Germany is not at risk from the current Ebola epidemic in West Africa. The responsible German agencies and health institutions are thoroughly prepared to quickly

isolate and treat any infected or sick individuals entering the country. A broad network of competence and treatment centers (StAKoB) guarantees clinical and preventative hygiene management for disease control. The major airports in Düsseldorf, Munich, Hamburg and Frankfurt am Main have taken the necessary precautions to manage the arrival of persons with highly infectious and/or pathogenic diseases: the dedicated emergency strategies and fully equipped medical diagnostic examination rooms enable any potential infection to be quickly identified there, and those infected immediately transported to specialized treatment centers.

#### **Education generates a good response**

As part of its function as a central interface for health-related civil protection, the BBK noted and analyzed the spread of Ebola fever in West Africa early on with the aim of being prepared for any potential scenario. On October 15, 2014, the BBK established the “Ebola Incident Team”. The need for information was growing constantly not just among the population, but also among organizations and official agencies responsible for health and disaster protection. The Incident Team was therefore assigned to organize a large-scale education and information event, the “Special Forum on Health-Related Civil Protection: Ebola Fever – Measures in Germany”. All the health and disaster protection agencies received a copy of “Biological Threats I” prior to the event, jointly published by the BBK and the RKI. In addition to the print version, a CD



contains various short videos, e.g.

regarding the correct use of personal protective equipment (PPE). The videos have also aroused great interest worldwide and the BBK has now made them available to several international organizations.

Just three and a half weeks after the Incident Team was founded, the Special Forum took place, organized with the RKI, with roughly 300 participants. Despite the unusually short notice, the special Ebola forum received an overwhelmingly positive response from experts, and was fully booked within a few days. The leading experts in this field offered to act as facilitators and speakers under the leadership of the BBK.

#### **A comprehensive knowledge transfer**

The range of topics in the five information blocks included potential risks to Germany, dealing with possible cases of Ebola fever and existing patients and managing risk, crises, and incident staff. To ensure the transfer of a maximum amount of knowledge, the Incident Team developed a Q&A module for the special forum. Participants could post their questions on thematically organized partition walls during the event, and experts then answered questions after presentations and particularly during the evening discussion forums.

The discussion forums focused on clinical and preventative hygiene measures for disease control,

psychosocial crisis management, PPE, occupational health, and safety and insurance. The results of the various thematic blocks are summarized in the following key statements:

- The battle against this Ebola fever epidemic can only be won in West Africa.
- The virus does not allow any margin for error in hygiene or personal protection.
- The virus cannot spread if all participants follow the procedures correctly.
- Training in the use of the PPE is essential to contain the epidemic.
- The Ebola fever epidemic in West Africa is causing anxiety in the German population and is resulting in social responses like marginalization and stigmatization.
- Appropriate risk and crisis communication for these responses will require a precise analysis.

#### **Interdisciplinary dialogue set in motion**

Many of the findings from expert discussions in the special Ebola forum show that we need to conduct a social-science analysis of the fears of the population and the scientific community, for example among practicing doctors and official agencies. In addition, target group-oriented risk and crisis communication is essential beyond merely conveying medical and scientific facts – not just in the case of Ebola, but also for threats from other highly pathogenic diseases.

Even before the end of the special forum, participants founded the new “Working Group on Biological Threats in Health-Related Civil Protection” (ABiGeB). Led by the BBK, its members include representatives from the RKI, the Academy of Public Health in Düsseldorf (Akad.ÖGD), the Bavarian State Agency for Health and Food Safety and the Public Health Office of the City of Frankfurt am Main. The objective of the ABiGeB is to



Makoua, Congo: a sign warns people not to enter an Ebola infection area

### **Ebola – a deadly threat?**

The Ebola virus is named after the river that flows through densely forested areas in the northwest of the Democratic Republic of the Congo. The first outbreak of the illness was observed on the shores of the river in 1976. All the Ebola fever outbreaks described before 2014 were self-contained and the largest known outbreak to date involved 425 cases. The epidemic that has gripped large parts of West Africa since 2014 probably came from flying foxes or bats, because the Ebola virus can be transmitted between animals and people when there is close contact with bodily fluids, for instance when butchering wild game. Ebola fever is mainly transmitted between humans via blood or vomit. The symptoms resemble the start of flu, but then quickly develop into the specific Ebola symptoms, which include hemorrhagic fever and, depending on the strain of the virus, 25-80% of cases are fatal. It is still impossible to tell when a targeted, effective medication will be available, but several countries are already testing vaccines for the Ebola virus.

develop standard national education to prevent biological threats, particularly using PPE. The group is less focused on new developments than on harmonizing existing standards and strategies and is already planning to develop a special curriculum and to offer training for multipliers. In the context of the Ebola fever epidemic, the BBK believes its main task is to optimize interdisciplinary preparation for the general risks arising from highly pathogenic viruses.



## A record year for a development prize

The answer is at hand: volunteer work forms the backbone of civil protection. The symbolism of the “Helping Hand” prize is also clear – it represents a shared approach and coordinated collaboration.

In 2014, the annual “Helping Hand” development prize from the Federal Ministry of the Interior was awarded for the sixth time. Once again, it confirmed that volunteer work is not a heroic, remote activity, but something everyone can do and experience in everyday life. The prize, awarded in three categories by Dr. Thomas de Maizière, the Federal Minister of the Interior, is a token of thanks from all the people who can count on the help of around 1.7 million volunteer helpers in Germany.

In 2014, the BBK launched an unusual campaign to attract more public attention for the competition; it contacted regional groups and aid organizations via Facebook. The campaign produced a record number of applicants, with 238 submissions. Up to 68,000 Facebook users learned about the “Helping Hand” daily and many were inspired to interact by

“Liking” the page or leaving comments. In addition, the campaign generated over 3,500 new fans for the “Helping Hand” Facebook page.

### Strong motivation for voluntary service

In the category of “Youth and Young Talent Development”, the first prize went to the State Fire Department Association and the Junior Fire Department in Bremen. Together, they developed highly motivational guidelines under the header “Ehrensache! Ich mache weiter” (“A matter of pride! I want to keep going”) for young firefighters. The Order of Malta in Hamburg took second place with their poster campaign “Kämpfe mit uns!” (“Fight with us!”) and their call for voluntary commitment met with a strong response in the Hanseatic city. The jury awarded two third prizes in 2014: one to the Youth Incident Team from the Berlin state association of the German Life Saving Society, and one to the Deisel Junior Fire Department in northern Hesse. Under the motto “Laufen statt Saufen” (“Run, don’t booze”), the Deisel team laid a 100-meter hose as quickly as humanly possible. They filmed their campaign and used social media to ask other junior fire departments follow suit. The challenge was taken up by more than 280 fire departments in Germany and other countries.





Group picture of the 2014 “Helping Hand” winners

### Voluntary service in an aging society

The 2014 “Helping Hand” prize testifies to the ongoing creativity of committed volunteers in Germany. However, that should not distract us from the great challenges facing these volunteers. For instance, what effect will the demographic change have on the voluntary civil protection and disaster prevention service? Declining population numbers and the rising average age in Germany will make it harder to recruit volunteers. The State Interior Ministers’ Conference launched a research project on this matter, which was subdivided into six smaller studies headed by the BBK. A later seventh study by the Institut für Sozialforschung und Sozialwirtschaft e.V. (The Institute for Social Research and Social Economy) analyzed the smaller studies in 2014 and compiled the results into concrete recommendations for action.

As a central finding, the ISO study mentions the fact that people with an immigrant background, women, and senior citizens are strongly under-represented target groups – which is a source of untapped potential in the voluntary sector.

However, in developing target group-based strategies, the authors of the study point out that recruiting volunteers for civil and disaster protection can create competition with other organizations that also are pursuing socially beneficial objectives.

They recommend that aid organizations optimize their public image, in particular by becoming more culturally open, and that they redesign their processes to make even low-level participation options much easier. The study also includes clear recommendations for political decision-makers – for example improving incentives for the participation of citizens, and commercial associations and companies should also be more closely involved. The authors of the study suggest that a monitoring and coordination office is set up for all the actors involved to ensure the practical implementation of their recommendations. The BBK is already tackling this assignment in coordination with the state governments and aid organizations.

In most threat situations, the victims are likely to include people with sensory disabilities who have to be rescued, evacuated or receive medical care like everyone else. However, the special psychosocial needs of people with restricted vision and hearing are not often taken into account in incident strategies for emergency and disaster prevention. This also applies to Psychosocial Emergency Care (PEC), and international guidelines for psychosocial crisis management have long required that closer attention be paid to this target group, but specific recommendations have been largely lacking.

The BBK therefore designed a PEC concept specifically for people with visual and hearing disabilities, to develop appropriate training strategies and to implement the relevant training sessions. The framework was provided by a project supported by the European Commission, “European Network for Psychosocial Crisis Management – Helping the Disabled in Disasters” or “EUNAD” for short. In addition to the BBK, the project and cooperation partners include the Center for Psychotraumatology at Alexianer Krefeld GmbH and several universities, research centers and PEC institutions in Denmark, Norway, Spain, the Czech Republic, and Israel. The EUNAD project started in early 2013 and was successfully completed in December 2014.

### Strengthening self-help capacity

The project started by asking questions that are essential for providing effective psychosocial support to people with limited vision and hearing. For example, what could improve their safety and what could improve their subjective experi-

ence of safety? What would help to calm them down in an emergency?

Above all, how can their capacity to act and their independence be restored as quickly as possible during and after a crisis situation? Most people with vision or hearing disabilities generally lead independent, self-determined lives.

In an emergency situation the problem mainly arises from an often abrupt change in environmental conditions that

cannot be understood quickly enough. The most important aim of psychosocial acute aid for people with sensory disabilities is therefore to prevent a loss of control and strengthen their self-help skills through suitable risk and crisis communication. In emergency situations, people with hearing or vision disabilities have the same basic needs as anyone else: protection and safety, orientation and information, control and self-determination and contact with other people. To meet these needs however, people with restricted perception skills sometimes require specific solutions, bearing in mind the essential request of people with disabilities: “Nothing about us without us”. In this context, the BBK supports a

## In focus

People with sensory disabilities

broad dialog between specialized organizations in the field of PEC and associations of disabled people to jointly develop strategies for optimal emergency readiness, including improving self-help skills and acute psychosocial care.

#### **Training need: communication skills**

Based on the EUNAD project results, the BBK worked with various associations for people with sensory disabilities – Deutscher Schwerhörigenbund, Deutscher Gehörlosen-Bund and Deutscher Blinden- und Sehbehindertenverband, (the German Association for the Hard of Hearing, the German Deaf Association, the German Association for the Blind and Visually Impaired) – to develop concrete suggestions for action. For example, the restricted perception

of a deaf person is not always apparent in an emergency or crisis situation. When someone fails to respond to instructions, incident workers should always consider the possibility that the person may have hearing disabilities. In this case, special communication skills are needed:

eye contact is essential, as are short sentences, which should be articulated loudly and clearly.

A pen and paper can also be helpful in communicating important information.

Ideally, incident workers will even have a sign language dictionary available. Here it is once again clear why the

BBK places so much value on specific education and training

programs that provide

psychosocial emergency support

for people with sensory

disabilities.



#### **A need for PEC**

A surprising number of people have limited hearing or total hearing loss. According to expert estimates, more than 16 million people in Germany have varying degrees of hearing loss, so roughly 20% of the population. The figures from the Federal Statistical Office are much lower, but according to Deutscher Schwerhörigenbund, many affected people do not claim any state assistance and are therefore not recorded in official registers. All these people are part of the target group for the EUNAD project.



# Protection

It affects everyone



### **Growing challenges**

A significant aspect of civil protection involves protecting our livelihoods which includes in particular critical infrastructures (KRITIS) like the water and power supply. But which parts of these infrastructures are truly vital, meaning that they must remain functional even in the event of a disaster? Effective and affordable protection measures require valid answers to these questions. However, we also need to protect ourselves and the environment from growing threats and from the accidental or intentional release of radioactive, biological or chemical substances for example.

### Faster response to CBRN threats

Protecting the population against threats from chemical, radiological, and nuclear materials (CBRN) has always been a high priority for the BBK, and if these substances are released into the environment, the fire department's hazardous substances units are the first to respond. The units also include exploration and decontamination vehicles provided by the BBK. In addition to initiating rescue measures and eliminating acute sources of danger, i.e. by sealing off leaks, the important factor in CBRN situations is generally to obtain information about the type of threat and the released substances as quickly and precisely as possible.

The responsible fire departments receive support for this from the federal government's Analytical Task Force. The ATF-B is responsible for biological threats, while the ATF C-RN is mainly equipped for chemical threat situations and can provide basic support in radiological situations. The staff of the ATF units is recruited from among experts at the state and municipal level, and the training and further education for these specialized workers is coordinated by the BBK. In addition, the BBK equips the ATF sites with high-performance measurement technology and specialized vehicles totaling around 10 million euros and also contributes to the maintenance costs for the equipment. The ATFF C-RN has sites at the Hamburg, Mannheim, Dortmund, Cologne and Munich fire departments and at the Berlin State Office of Criminal Investigation and the site currently under construction at the Leipzig fire department, and is now able to provide help anywhere in Germany within three hours of receiving an alert.

### Joint federal and state strategy

In March 2014, the Committee for Fire Department Affairs, Disaster Protection and Civil Defense (AFKzV) approved the "Framework concept for CBRN protection (ABC protection) in the area of



GPS positioning included: an ultramodern measurement device enables mobile nuclide testing in the field

civil protection". The concept provides Germany with its first joint federal and state-supported basis for this area of protection. The paper was developed under the leadership of the BMI by a ministerial federal-state working group and with the active technical support from the BBK.

The aim of the framework concept is to create a shared understanding among the responsible parties about how to handle CBRN threats and damage situations at every federal level. The program is primarily skill-oriented and does not focus on responsibilities or structures and it requires what is necessary rather than describing the existing situation. The federal and state structures now need to establish a mutually agreed implementation process to bring the skill profile outlined in the program for CBRN protection.

### Mobile measurement technology for field incidents

The BBK improved the ATF C-RN's analytical skills in the past year by purchasing advanced measurement technology which was completed in December 2014. The technology included seven portable devices for nuclide identification and for measuring gamma rays. The recently developed gamma spectroscopy device RIIDEye X enables the ATF C-RN to perform an initial isotope identification on site if radioactive contamination is suspected. In addition to nuclide identification and gamma-ray measurement, the GPS module also allows the

device to perform an immediate site localization. Based on the measurement results, the ATFC-RN can implement targeted special forces and provide the relevant site information in advance.

The ATF had also received other measurement devices from the BBK previously, including devices to measure radioactive contamination with alpha, beta or gamma rays on people and objects. The array of measurement equipment is completed by a new probe that quickly pinpoints sources of radiation and a rapid indicator that improves personal protection for incident workers. Thus the ATF-CRN is now able to measure all types of radiation quickly and precisely. The newly acquired devices had to pass an intensive screening test in the BBK's physical test laboratory before they were used in the field.

#### Practical test: a wide-ranging measurement campaign

The CBRN investigation vehicles once again demonstrated their sensitivity and reliability last June at the outdoor facilities of the Institut der Feuerwehr Nordrhein-Westfalen (the Fire Brigade Institute of North Rhein Westphalia) (IdF) in Handorf/Telgte. The BBK took part in a comprehensive measurement campaign there which focused on testing and further developing vehicle-supported systems for detecting and identifying radioactive material. Radiation sources were hidden around the testing area, and the mission was to locate them and enter them on digital maps in the exploration vehicle's onboard computer.

In addition to the IdF and the BBK, participants included the Fraunhofer Institute for Natural Science and Technical Trend Analyses (Fraunhofer INT) and partners of the Franco-German cooperation project ANCHORS (UAV-Assisted Ad Hoc Networks for Crisis Management and Hostile Environment Sensing). The project, funded by the Federal Ministry for Education and Research (BMBF), helps explore sites quickly and effectively using autonomous, unmanned systems; the



Digitally mapped: radiation intensity in a radioactivity-contaminated area is shown in various colors

campaign in Handorf/Telgte used an octocopter with the relevant measurement technology for example. In addition to the INT and the BBK, other RN specialists like Deutsche Bahn AG, Kerntechnische Hilfsdienst GmbH and the NRW detector from the LIA NRW as well as two CBRN detectors from the Coesfeld district took part in the measurement campaign.

#### Fast and reliable detection

Biological hazards pose a significant threat to the health of the population and can have serious effects on the economy. Since letters contaminated with anthrax spores made headlines in the US in 2001, Germany's population has also been keenly aware of the real threat of bioterrorist attacks. This makes it all the more important for civil protection workers to track hazardous bio-agents quickly and reliably and to classify them accurately, as this is the only way to ensure national health and safety. Against this backdrop, the BBK launched a two-year pilot project in 2013 to prepare for the routine operation of a nationwide ATF-B to avert biological threats, and the project made significant progress in 2014. Firstly, it coordinated technical and training programs that were further developed and secondly, communication and cooperation structures with healthcare institutions, partner agencies, and specialized laboratories were consolidated. One example of this was a joint practical exercise between the BBK and the participants in the pilot project, including representatives of the Robert

Koch Institute, the Bavarian State Office for Health and Food Safety, the University Clinic in Essen, and the professional fire brigades in Hamburg and Frankfurt am Main. The LKA Berlin and the Essen fire service participated in active training as pilot sites for the ATF-B.

### **CBRN protection completed**

The objective of the exercise was to review the previously developed HR approaches and procedures and the logistical requirements profile for the ATF-B, in terms of detection and vehicle equipment during practical use. The scenario involved releasing aerosol in a long-distance coach where the participants in the exercise had to take samples as quickly as possible. The suspicious samples underwent immunological and molecular biological tests before they even left the hazard zone, and were then prepared for secure transport to a special lab.

This exercise served to move the federal ATF-B a large step closer to normal operations. In particular, the results analysis provided information

on functional staffing that can be applied generally and valuable findings that have now been used to further refine the ATF-B equipment array.

### **Passed with flying colors: the practical bio-analytics test**

The technologically smart analytics hardware may work well in the lab, but how easy and effective are these devices in real incident conditions when ATF forces may be wearing PPE on site to protect themselves from contamination by dangerous bio-agents? This question was the focus of a joint exercise designed by the BBK in late 2014 for the ATF sites in Essen, Mannheim, Hamburg, and Berlin. The exercise was supported by project partners from the Robert Koch Institute, the Commissariat à l'énergie atomique et aux énergies alternatives (Commission for Atomic Energy and Alternative Energy) and the participating development companies Bruker Daltonics and Bertin Technologies. The exercise was part of a three-year Franco-German cooperation project dubbed "GEFREASE", the aim of which is to develop an integrated detection approach for



An ATF-B exercise: taking samples and performing immunological analyses in the field





securely identifying biological hazards on site. Both measurement devices tested during the exercise use an antibody-based detection process and biologically effective substances, i.e. a virus protein, are identified using enzymatic antibody reactions. The devices, made by Bruker Daltonik in Leipzig and Bertin Technologies in Paris, work with special antibodies that were previously developed within the GEFREASE project. Both devices successfully passed their suitability tests under field conditions and even passed the tests with flying colors when different types of protective clothing were worn.

Portable toxin detector identifies biohazards using antibody reactions

### Introducing the GEFREASE project

The acronym GEFREASE stands for “German French Equipment for Analysis and Surveillance of Biothreats in the Environment”. The Franco-German project looked for ways to improve the detection of hazardous biological materials – the faster the causal agent can be identified, the faster measures can be implemented to protect the population and limit the damage. The main aim of GEFREASE was to increase the pool of reagents for detection to expand the spectrum of biohazards that could be detected. On-site analytics buy valuable time to launch initial countermeasures, and diagnostic tests must always then be performed in a stationary lab to confirm the findings. The mobility of the detection technology in turn required a miniaturized solution so the reagents could, for example, be implemented on electrochemically readable biochips. Another focus of the project was the further development of mass spectroscopic analytics to test complex samples with unknown compositions for potentially hazardous toxins, viruses, and bacteria.

The project, funded by the BMBF, was launched in April 2012 and was originally slated to run through March 2015. The project was extended to the end of December 2015.



*“Critical infrastructures (KRITIS) are organizations or institutions of vital importance for the national community whose failure or impairment would cause long-term supply shortfalls, significant disruptions to public safety, and other dramatic effects”*

Definition by the BMI from the National Strategy to Protect Critical Infrastructures



### **Which infrastructures are critical?**

Critical infrastructures (KRITIS) provide the population with essential goods and services, and protecting therefore is an essential building block in German civil protection. KRITIS must fulfill their supply tasks under any conditions to meet the population's basic needs, i.e. drinking water, power and transport services. In addition, various socioeconomic service infrastructures are essential for maintaining our fundamental constitutional order and public safety and the trust of the citizens of the state. These include, for example, judicial institutions and iconic buildings such as Cologne Cathedral.

But which specific facilities and buildings are so critical that their loss would lead to massive supply shortages, severe damage to the economy or the environment or a disruption in public safety? Until now, there were no consistent evaluation standards in Germany for determining if a particular institution was considered critical or not; these decisions were essentially left to assessment of the person in charge.

### A new model for evaluating criticality

It therefore comes as no surprise that various actors in the civil protection sector, from infrastructure operators and federal states, have repeatedly stated the need for a standardized system to identify and prioritize critical infrastructures. The BBK responded by developing a process method known as KritisKAT.

KritisKAT is the first approach comparable to the preliminary analysis of concrete critical infrastructures and their components at the federal, state and municipal level. This means two things in terms of civil protection: first, the responsible agencies at every level now have a standardized procedural instrument that enables them to accurately analyze the sensitive points. Second, KritisKAT simultaneously provides the basis for targeted optimization of the existing protective measures.

Why is it so important to have a uniform process for prioritizing critical infrastructures? Because that is the only way to systematically and more reliably recognize possible gaps in protection, by comparing all the existing protective measures with the results of the criticality analysis. In addition, financial and human resources are also limited in civil protection, and unreliable KRITIS classifications could lead to higher protection requirements and thus higher costs – funds that cannot then be spent elsewhere. In times when budgets are tight overall, it is all the more important to use the available resources in a targeted way, and that is precisely where KritisKAT comes into play for civil protection.

### Protection objectives are decisive

KritisKAT is based on a criticality analysis that estimates the possible consequences of a loss of

essential supplies, goods, and services. In this sense, a system or facility is critical if its loss could lead to intolerable disruptions in process.

The criticality analysis includes all the components of each infrastructure and subdivides them into two groups: components whose loss could have negative effects, but which are still manageable, and components for which the consequences of a loss would be uncontrollable and thus unacceptable. The line between tolerable and intolerable is always based on a certain protection objective. In civil protection, the aim is to ensure the survival of the population. Naturally, this strategic protection objective has a regionally limited perspective, which is implemented differently at the municipal level than it would be at the federal level, where the view is more interdisciplinary across systems.

### How critical services are identified

The KritisKAT approach has two parts: firstly to define critical services and then identify their critical processes and elements. Critical services are all the overarching processes that are relevant for the supply task of the infrastructure in question. The natural gas supply is an overarching process for the energy supply for example. All the identified overarching processes are then reviewed based on the following question: is the service so essential to the population that it must be provided in the event of a crisis? This is assumed to be the case if at least the first two statements below apply:

- The service is part of a sector in the critical infrastructures; there are currently nine sectors with 29 branches at the federal level.

- The service is extremely important to the population in terms of health and safety, public order, economic performance, the environment or culture.
- Other important services depend on the service whereby the loss of such could create a domino effect.
- The service is not replaceable; i.e. it cannot be performed anywhere else within the infrastructure.

The more of these points are fulfilled, the greater the criticality of the relevant service. The list of all the services designated as critical is then used as a basis for the second analysis step, namely identifying all the critical elements and processes in the infrastructure under evaluation.

#### **The criteria: quality, quantity, time**

Elements and processes are investigated for each critical service in three criteria: quality, quantity and time. In this case, quality – also known as system value – is measured by whether a failure of the relevant element or process could cause long-term damage to the service. The quantity criterion refers to the number of people potentially affected by a failure. Finally, the time criterion refers to the speed with which a process or element failure would have an effect. In particular, it is important to ask here whether a failure could have a direct impact on the population.

The results of the criticality analysis can be directly applied to emergency and risk management. Among other things, they can be used as a basis for emergency planning in the event of a power failure, for example to prioritize the distribution of an emergency power capacity.



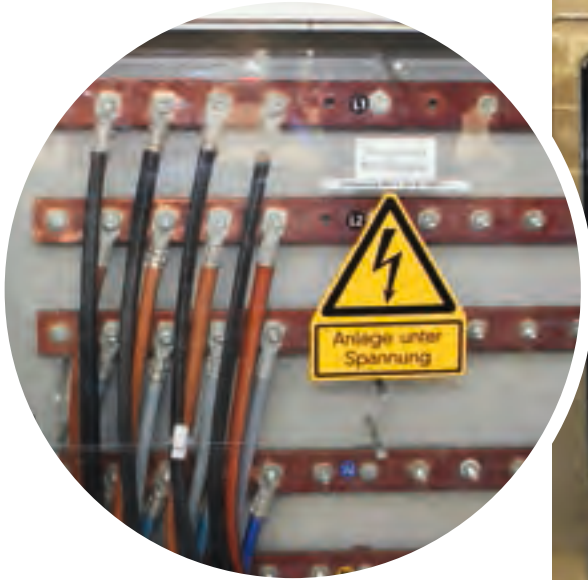
#### **Power failure: disaster versus candlelight**

In Germany, the population has to do without electricity for an average of 15-20 minutes a year, and this is generally due to power failures lasting a few minutes or hours owing to underground construction or a storm for example. For many people, the brief disruption in their daily lives brings a sense of vacation or adventure with it: suddenly you are sitting in candlelight, and for a little while you can forget what seemed so urgent a minute ago.

The situation is very different for a lengthy, wide-scale power outage, and studies show that this can have dramatic results. A large number of vital goods and services depend on having a constant power supply: information technology and telecommunications, the water supply, and transport, as well as medical technology in hospitals – all these systems would come to an immediate standstill, so it is with good reason that the power supply is a classic example of KRITIS.

Caution! The fuel quality for emergency power systems can cause problems if it is stored for a long time

Bottom: the connection point for a mobile emergency power system



Several years ago, the BBK concluded that an overall concept had to be developed to manage lengthy, extensive power cuts. The framework for this comes from the KritisNOTSTROM (critical systems emergency power) project, which offers solutions and approaches for representatives at every administrative level – federal, state and municipal. The core of this overall package is a basic policy outlining how the government can guarantee the population a minimum level of essential goods and services in the event of a power outage.

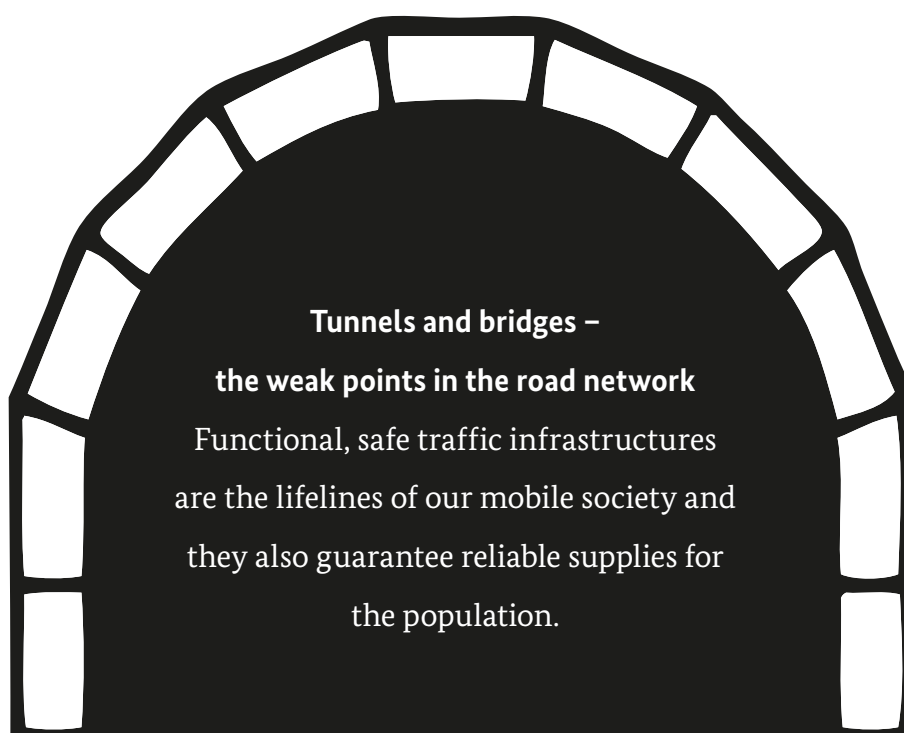
#### **KritisNOTSTROM – a work in progress**

One result of KritisNOTSTROM was the 2014 revision of the BBK guideline for planning, setting up and operating an emergency power supply for companies and agencies. In the revised guideline, the BBK published supplementary recommendations to guarantee at least 72 hours of emergency power without supplying additional fuel. This timeframe is based on the fact that many outages can be rectified within 72 hours, and that this is generally enough time to deliver additional fuel. However, a longer emergency power supply can



also make sense for particularly critical business processes, and industry-specific regulations must be followed here.

Another more concrete recommendation involves the long-term storage of fuel for emergency power systems. Standard market diesel fuels do not necessarily guarantee that these systems will work reliably and, even when stored correctly, contamination cannot be ruled out, and this is known as “diesel plague”. As a result, an immediate recommendation is to sign supervision contracts to ensure fuel quality and to use non-biodiesel fuels wherever possible.



In addition to rails and waterways, Germany's road network is one of the main components of the traffic infrastructure and bridges and tunnel structures are the weak points within this network. Whether it is caused by a multi-vehicle accident, an attack or a natural event, the loss of just one tunnel can severely impair the traffic flow of the entire road network.

Downtimes and restoration costs can also have a significant impact on the national economy. Above all, however, those driving through a tunnel during an incident are exposed to significant risks and many suffer indirect effects, e.g. commuters and residents who have to cope with detours and increased traffic on alternate routes, so tunnels are worth protecting for many reasons.

### People remain the most important safety factor

The “Protection of critical bridges and tunnels as part of roads” project (SKRIBT), supported by the Federal Ministry for Education and Research (BMBF) and with the Federal Highway Research Institute (BAST) leading the syndicate, studied bridges and tunnels in Germany for the first time from the perspective of civil safety research.

As one of the project’s ten partners, the BBK specifically looked at the organizational aspects involved in managing damage incidents in road tunnels. The aim was to map existing risk prevention structures and determine the need for further action by incident managers based on new threat situations. Although the safety level in road tunnels is largely determined by increasingly complex technical systems, people are still the most important factor: as they must identify and evaluate the situation in serious cases and make the right decisions. The results of the sub-project supported by the BBK led to the publication of a 2013 brochure entitled “Incident management for road tunnels – recommendations for operational and incident services”, which is now available in a third expanded edition.

### Risk analyses for tunnel control centers

In the event of an incident in a road tunnel, the respective tunnel control center (TCC) is responsible for initial measures until the incident workers arrive. Once the alert is issued, the immediate task is to support the self-rescues of the endangered tunnel users. This could include, for instance, turning on the ventilation and lighting and setting up roadblocks. The TCC must also provide incident workers with important site information as quickly as possible; the direction smoke is spreading in the event of a fire for example. As soon as the incident workers arrive, the TCC provides support under the instructions of the responsible police officers or firefighters.

Germany is a country with particularly heavy traffic, and tunnels and bridges often create bottlenecks in our road network for geographic reasons. These structures are also vulnerable to disruptions and can pose significant feedback risks for the entire road network in these cases. As a result, protecting roughly 240 road tunnels and 39,000 bridges comprising Germany’s road network is an extremely high priority for the BBK.

A failure of the TCC would have significant consequences for safe tunnel operations; the energy supply is especially important here, along with information and communication systems. Today, their functionality may be impaired not just by technical and natural disruptions, but also due to targeted cyber-attacks, the BBK therefore developed a method for performing a risk analysis as part of the follow-up project SKRIBTPlus . It includes instructions for systematically determining the vulnerabilities of system elements and TCC processes, including a comparison of potential threats that could lead to operational failures.

The BBK was able to use the results of the SKRIBT-Plus project to provide an important building block to operational TCC risk management last year based on the overarching goal of making TCC operating processes more failure-resistant. Ultimately, that means greater stability for road-based traffic flows as well as a more effective way of preventing potential damage to the population, the economy, and the environment in the event of an incident.



### Self-protection: the basis of civil protection

If everyone is as prepared as possible for an emergency situation, society's resistance as a whole will be enhanced in the event of a disaster. As a result, in 2014, the BBK focused its efforts on firmly implanting the issue of self-protection in people's minds while providing practical support to increase the self-help capacity of every individual.

The efforts were successful – the current BBK guidebook, “Disaster alert – a guidebook for emergency measures and correct actions in emergency situations” has been received enthusiastically by municipalities, aid organizations and private citizens over the last year. In addition to tips on what to do in the event of a storm or fire, the BBK guidebook also gives advice on personal measures to take in case of a disaster, including checklists of useful food supplies, hygiene items and medicines.

### Online, on TV and in direct contact with people

“Kochen ohne Strom” (“Cooking Without Power”) was the name of a TV show that aired on WDR on October 13, 2014, for World

Disaster Prevention Day,

in which BBK

spokesperson

Ursula Fuchs

demonstrated

how to feed

yourself and

your family

well even in

an emergency

BBK spokesperson

Ursula Fuchs (left), provides tips on personal emergency preparedness during a TV show



situation, but you do need to be prepared! For example, the program explained which foods can last a long time without refrigeration and should therefore be a staple in every household, because it is often too late to make preparations when an emergency situation strikes.



The BBK's website [www.max-und-flocke-helferland.de](http://www.max-und-flocke-helferland.de) is specifically aimed at children aged 7-12 years. The site provides information on everyday hazards in an age-appropriate, playful way, with quizzes and adventure games among others. However, “Max und Flocke im Helferland” also addresses parents and teachers who can find educational worksheets and other resources on the topic. The BBK particularly promotes self-help skills among children and young people of up to 16 years old through its courses on medical first aid with self-help content. Every year, around 90-100,000 young people in Germany learn what to do in emergency situations and how they can help.

The BBK does not just contact the various target groups via TV and the web – it also meets them in person at a wide range of events. Here are some of the highlights:



**Dialoguing with municipalities**

Crisis-type situations can take place anytime and anywhere, but events like these do not always spark a national response and the parties responsible often have to make timely decisions on the spot to prevent damage. Some possible courses of action were the focus of the seventh Mayors' Congress, which the publishing group "Behörden Spiegel" held in the spring of 2014. As it does every year, the BBK once again played a major role in designing the content of the Congress, and the event generally addressed leaders from cities, parishes

and districts and focuses primarily on improving self-help capacities in unusual situations that fall below the disaster threshold.

**Involve everyone!**

It is easier to promote the self-help capacity of various social groups and institutions if there is more information available on the status quo in the respective target group. As a result, the



Civil protection affects everyone: the BBK at NRW Days in Bielefeld

Gerontology Research Society headquartered at TU Dortmund studied the self-protection and self-help capacity of retirement and care facilities on behalf of the BBK. The short study looked at the current self-protection situation in stationary senior care facilities in the context of selected scenarios, such as a long-term power outage, fire, evacuation, and pandemic.

On behalf of the BBK, the Institute for Socioeconomic and Cultural International Analysis focused on a serious protection gap in Germany – the inadequate self-help capacity of people with disabilities.



### **Shifting educational assumptions**

Civil protection is a broad societal task for a variety of actors, because threats can come from nature or may have a technical source. Given the current world situation, however, we also need to consider terrorist threats and the possibility of international conflicts more carefully than before. Recognizing indicators early on and investigating them systematically is the task of the news services, the military is responsible for protecting people from external attacks, and domestic protection falls within the scope of police responsibilities. The operators of critical infrastructures maintain our livelihoods, while civil protection forces are responsible for preventing, reducing, and remedying potential damage. The BBK's own Academy for Crisis Management, Emergency Planning and Civil Protection (AKNZ) is therefore constantly working to adapt its educational concepts for national civil and disaster protection to the changing safety environment.

Roleplay: future top-level police force members take turns performing various executive staff functions

### Administrative staff education

Crises are never overcome by resisting the media, but by cooperating with it, and this is the job of the press spokespeople. In the crisis management group, they are responsible for keeping the population informed and for media relations and must analyze the relevant media reports and then coordinate active crisis communication. Staff education on this point is particularly aimed at making sure that crisis communications correspond to the form and content of communications prior to the outbreak of the incident, and the spokespeople are responsible for this task, because they are most familiar with the previous communication strategy.

In the event of a crisis, the administrative staff is the central communication interface for the population and their toolkit includes press conferences, brief statements, and other crisis-related publication formats. Thus they are also part of dedicated staff education seminars for spokespeople held at the AKNZ. Another aspect is significant here: new media like Facebook and Twitter are playing an increasingly important role in people's lives in addition to radio, TV, and print, and therefore have a growing importance in crisis management. The specifics of crisis communica-

tion in social networks were therefore also more strongly reflected in the administrative staff education program last year.

### Proven concepts are further developed

The basic staff education strategy has proved very successful in recent years and has remained largely unchanged. The main idea behind this concept is that each seminar and every exercise is tailor-made for the respective group and federalism and municipal self-administration require customized structures here. The exercise scenarios are also always customized based on prior risk analyses so that the results of the exercise can be implemented directly in further planning.

One important trend for further staff development in recent years has been a greater focus on the follow-up after real incidents, e.g. floods, storms, E. coli, contaminated drinking water or the threat of legionella. On the one hand this process guarantees that material learned at the AKNZ can be immediately implemented in practice, and on the other findings from the real-life incidents can then feed directly back into the curriculum. Staff seminars can often also be used immediately to update emergency plans.

# Education

Communication – the key to success

Last but not least, the collaboration between administrative staff and other actors, especially operators of critical infrastructures, municipalities within the district, and the overarching agencies, has been strengthened in the past year. Here, the administrative staff is not just the interface with the operational tactical component, but also coordinate all the measures with the municipalities, critical infrastructure companies, the federal district liaison team, the overarching agencies, and neighboring districts. In particular, scenarios involving health hazards have clearly shown that the crisis staff need to work effectively even beyond such “emergency response” situations to coordinate complex threat situations, even if large numbers of incident workers are not involved. Furthermore, the administrative staff has become key players as contact partners for companies. Given this background, new exercises were integrated into the seminar program, e.g. a sequence on how to secure the drinking water supply.

### **Police training at the AKNZ**

Whether there is a natural disaster or a terrorist attack, the various actors can only work together efficiently if all the participants know each other and are familiar with their respective tasks and areas of responsibility. This is the objective of the training for future police and criminal counselors at the AKNZ. For this reason, students from the German Police Academy (DHPol) in Münster spend a week at the AKNZ in Ahrweiler every year.

The realistic AKNZ training for managing major damage incidents has been a fixed part of the DHPol’s Master’s program for senior police officers since 2004. Specific exercises form the core of the training week at the AKNZ in addition to basic information about the structures of civil protec-

tion in Germany. In 2014, a total of 148 students practiced all the functions required for police management in six different exercise rooms.

The leaders for each exercise – staffed by people from a wide range of professions – sat in the next room, where a police officer could be sitting next to an administration expert, a German Technical Relief representative next to an ER doctor and a firefighter next to a chemist. Others played various public roles convincingly, e.g. members of transit companies or the media based on their own experience. The result was an extremely realistic exercise environment for the students.

The content of last year’s staff framework exercise focused on the overarching management of major events based on two scenarios. The fictional background: during events in Münster (Scenario 1) and Dortmund (Scenario 2), major damage incidents suddenly occur that the staff must manage in close collaboration with non-police actors from civil protection agencies like the fire department and emergency services. The scenarios also included fictional social media postings on Twitter and Facebook.

The future senior police officers were trained jointly by DHPol and AKNZ instructors and members of various fire departments, police stations, and administrative bodies. A total of about 220 people took part in the one-week training program.

### **Plenty of room for creativity**

During the training, students had to independently evaluate a given situation, determine and initiate the necessary measures and monitor their execution. They were allowed and encouraged to be creative during this process, and the aim of the exercise is

for students to develop and try out their own ideas. The instructors' task was to encourage this free thinking and to guide it in the right direction.

For future senior police officers at the federal and state levels, the week at the BBK's AKNZ in Ahrweiler is always a valuable experience where they can find out what it feels like to manage a complex damage situation in various roles. In general, one of the AKNZ's main objectives in this context is to encourage students in their future posts as police officers to contact local civil protection partners as quickly as possible, true to the motto "Meet people, build networks".

Today, more than 1,500 future senior police officers have successfully completed the week-long program at the AKNZ and many have since returned to Ahrweiler for further training. Even more have now made their personal contribution to the German safety network by becoming police officers. Here, we again see how the BBK brings its national approach for a networked safety architecture in Germany to life even during the training phase.

### **The AKNZ as a broadly networked cooperation platform**

The BBK's AKNZ is the federal government's central training and further education institution for civil protection. Its educational programs are aimed at everyone who has responsibility as a decision-maker or multiplier in the area of civil protection. Given the developments in safety policies in recent years, the formerly sharp dividing line between internal and external safety is becoming increasingly blurred. Therefore, state safety measures must be seen as a more integrated task and one that requires close collaboration and interactions between complementary skills from areas as diverse as news services, the police, military, civil protection, and critical infrastructures.

Because of its federal structure and the central role that business plays in critical infrastructures, Germany needs a universal and standardized platform to ensure an exchange of knowledge and cooperation within the highly networked safety system. Over the last few years, the AKNZ has evolved into this platform: it is widely respected as a knowledge hub for issues involving governmental and non-governmental safety measures. In addition, it has become established as an integration point for all the applicable federal, state, and economic bodies in the area of national crisis management. Furthermore, using the LÜKEX exercises, the AKNZ has consistently contributed to improving risk and crisis management collaboration between the federal and state governments at the political administrative level since 2004.



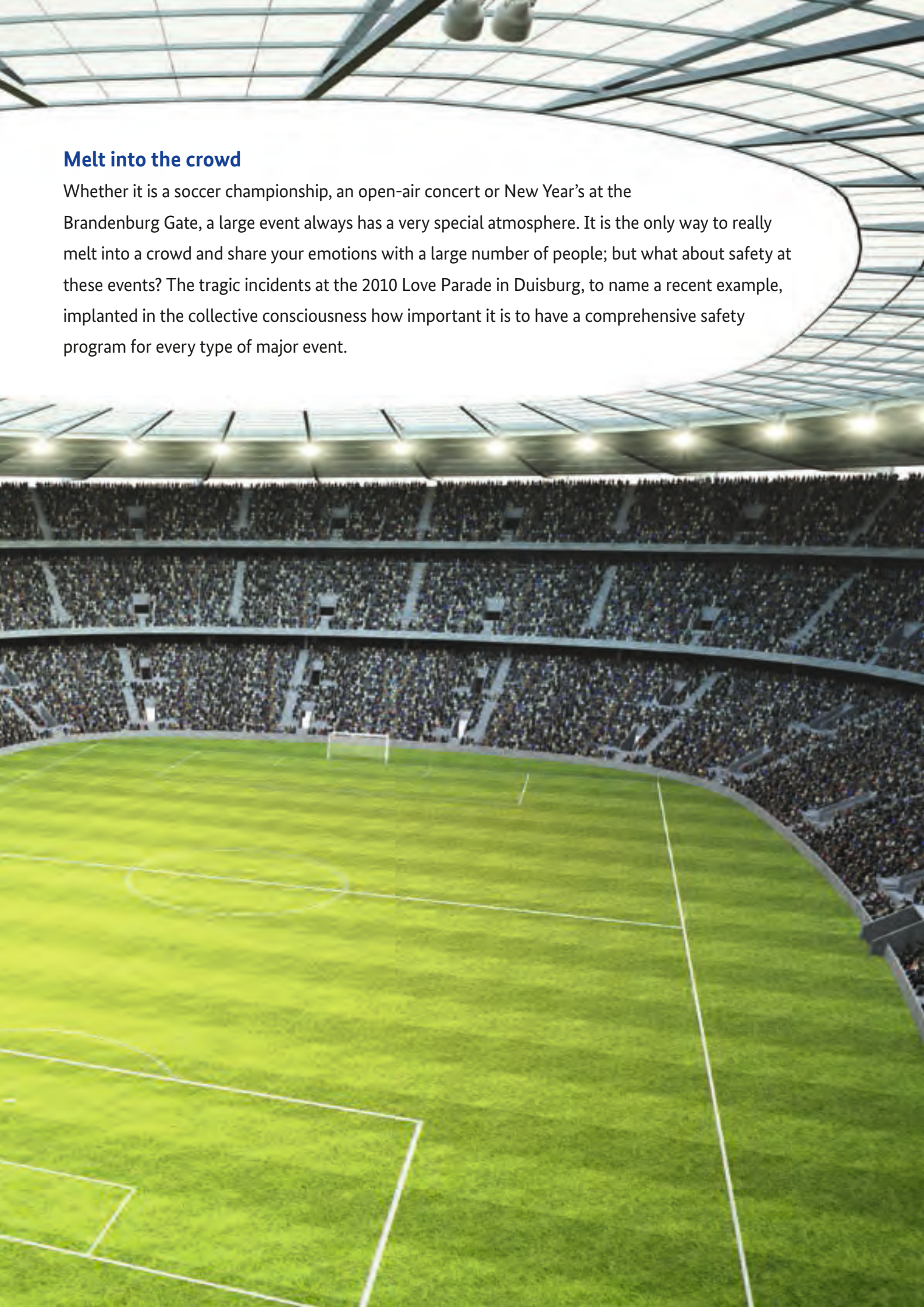
# Research

to improve safety at large events



## **Melt into the crowd**

Whether it is a soccer championship, an open-air concert or New Year's at the Brandenburg Gate, a large event always has a very special atmosphere. It is the only way to really melt into a crowd and share your emotions with a large number of people; but what about safety at these events? The tragic incidents at the 2010 Love Parade in Duisburg, to name a recent example, implanted in the collective consciousness how important it is to have a comprehensive safety program for every type of major event.



### Avoiding dangerous crowding

Large events are becoming increasingly popular, not just in large metropolises, but also in relatively small cities – even though events that assemble a large number of people in a relatively small area pose specific risks to health and safety. Dangerous crowding can even occur at the entrance to the event at the ticket booth; entrance and exit gates are therefore considered particularly vulnerable zones in the event arena.

The safety of large events depends on a range of factors, and safety management processes for major events also vary widely. There is currently no standard national approach and large differences still exist in the qualifications and experience of the responsible actors.

### A modular design principle

Given this background, the project “Building blocks for safety at large events” – BaSiGo for short – was launched in 2012. The joint project is financed by the Federal Ministry for Education and Research (BMBF) with budget of 6 million euros over a period of three years. There are a total of six partners from the science, business, police and non-police response unit sectors, and from the BBK.

The goal of BaSiGo is to jointly develop practicable solutions and tools to cover the diverse focuses and sizes of different event types. A total of eleven work packages were therefore compiled and distributed among the participating partners based on their specialized competences. The Academy for Crisis Management, Emergency Planning and Civil Protection (AKNZ) in the BBK was tasked with the ninth work package, “Education”. The results from all the packages are included in the “BaSiGo Guide”. Additional programs incorporated into the research project are BaSiGo Simulation, BaSiGo Support System, and BaSiGo Training.

### Education as an interdisciplinary task

For the BaSiGo Training product, the AKNZ developed a training model that was put to the practical test in 2014 with three pilot seminars. Preliminary studies had shown that while there were individual training programs on event safety in Germany, no national and interdisciplinary strategy existed. From the perspective of the research partners, however, a standardized training approach is crucial to improve the safety of large events in the long term.

The most important basis for the new AKNZ training model are the research results from the other BaSiGo work packages, and the findings and methods from the fields of psychology and social and engineering sciences play a role here. In addition, elements from the training models of other countries were evaluated to see if they could be applied. The focus of BaSiGo Training is on combining theoretical knowledge with practical skills.

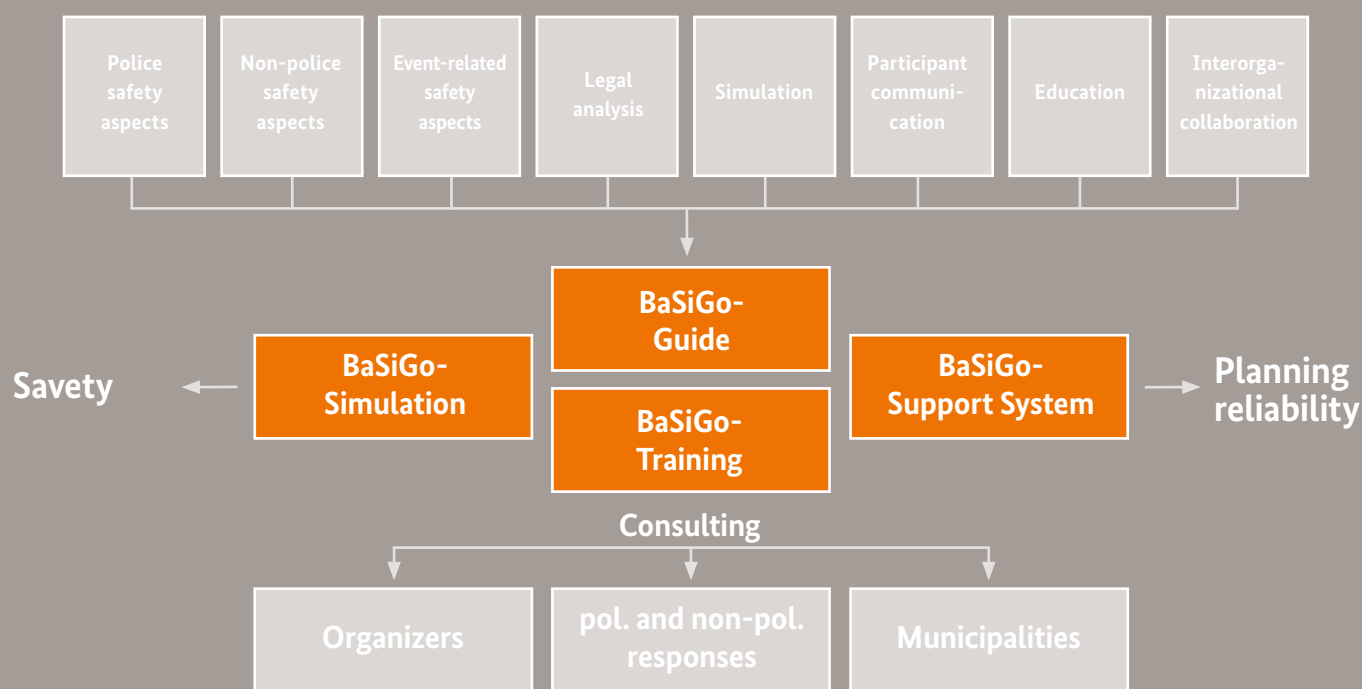
In terms of its content, BaSiGo Training covers every phase of a large event – from planning and permits to execution and follow-up. The thematic scope includes

- Safety strategy
- Risk management
- Emergency planning
- Communication
- Infrastructure and spatial planning
- Crowd management
- Simulation
- IT support.

### An interdisciplinary focus

The target group includes event organizers, law enforcement and security services and administration and response agencies. The AKNZ seminar “Basic Interdisciplinary Training for Safety at

## Safety building blocks



The concept of “safety building blocks” is central for BaSiGo. These are modules with proposals and recommendations that can

be applied to various event types. Potential threats are always countered by recommended measures using the appropriate tools.

Large Events” extends the skills of the participants on the one hand and, on the other, provides the opportunity to build networks and benefit from the experiences of other participants. This interdisciplinary focus of the BaSiGo Training at the AKNZ is currently unique in Germany and the purpose is to improve the inter-organizational collaboration of the participants in the long term.

Courses were accompanied by a parallel evaluation carried out by an external service provider: participants were asked to evaluate the content and methods used in the seminar, which allowed development potential to be identified for the

training model right away. Among others, the evaluation results resulted in a largely revised structure for the October course compared to previous courses in March and May 2014. For example, “table top exercises” were implemented which enabled the participants to apply their recently acquired theoretical skills immediately. In addition, the educational approach was further developed by introducing the co-teaching method, where selected topic blocks were taught by two instructors. The changes to the educational program consistently met with positive responses from participants in the third seminar.



# International networking

Civil protection beyond national borders

### Acknowledged worldwide

German crisis management has a good reputation abroad: civil protection strategies that are “made in Germany” have become a huge export and many countries are now realizing that international cooperation is of massive benefit to all in terms of preventing and managing crises. The BBK has been promoting the development of an international network of relationships for many years, both bilaterally with disaster protection agencies and aid organizations in other countries, and at a multilateral level, i.e. through direct partnerships with various UN and NATO institutions.



### Managing crises right from the start

What makes German crisis management so interesting for countries like China and – especially now – Jordan and Tunisia? Germany’s clearly structured crisis management organization is surely a factor here, along with intelligent tools and methods developed over many years for use in civil and disaster protection. In addition, the hands-on approach of German crisis managers has been noted in other countries and, although no single factor is solely responsible for the positive response, it is rather the way they interact.

In addition, there are many reasons why the BBK has also been working to improve disaster protection outside Germany literally from day

one, because many crisis situations do not stop at Germany’s borders. This also applies to “traditional” disasters like flooding, which can also affect neighboring states. Domino effects are also becoming increasingly important – for example during a large-scale power outage or a massive failure of the IT infrastructure. At the same time, the BBK follows the federal government’s general strategy, which involves fighting crises as near to their site of origin as possible and the tactic is that we go to the source of the crisis before the crisis comes to us.

### An EU-wide training partnership

Disasters like the nuclear reactor accident in Fukushima and the terrible earthquake in Haiti clearly show that national forces must sometimes

Roleplay during the high-level coordination course: welcoming ambassadors from the EU delegation

rely on help from experts in other countries to manage a crisis. These experts are trained as part of EU partnerships in which the BBK plays an active role. More specifically, the BBK's own Academy for Crisis Management, Emergency Planning and Civil Protection (AKNZ) is involved in the expert training, which can then also be implemented outside EU member states.

During the training, teams of experts generally complete a three-step training program. The AKNZ has regularly offered a "High-Level Coordination Course" (HLC) since 2004 that is considered the highest training level in the EU training program.

The 4 1/2 day HLC seminar was the starting point for a wide range of training partnerships between the BBK and various partner organizations in other EU countries such as the Polish National Fire Academy and the Safety Academy of the Austrian Ministry of the Interior. However, international collaboration is not merely the basis for successfully completing courses at the AKNZ; it is also an opportunity to deepen and consolidate the HLC content. During the training, participants build targeted skills for international partnerships, for example with government representatives in the affected country, with representatives from the military and police force and with actors from the United Nations, the Red Cross, and other humanitarian organizations. The seminars also cover working with the media and basic knowledge of the diplomatic code of behavior.



Paramedic training during the safety and security course: providing first aid under difficult conditions

In addition to the HLC seminars, the AKNZ has offered another seminar series for top-level EU training since 2012; the recently developed Head-of-Team Course. Both seminar blocks are designed for participants from 15 member states of the EU and many graduates were able to apply the knowledge and skills gained in Ahrweiler soon after finishing their training as a coordinator, assessment representative or team leader for incidents based on the European Union Civil Protection (EUCP) EU-wide disaster protection program.

### Long-term help: promoting self-help

In addition to disaster relief provided by experts from various EU countries, the BBK uses international partnerships to focus on bilaterally promoting self-help. One example of this is the project “Protecting and rescuing people,” which was launched in the fall of 2012 as part of the German-Tunisian transformation partnership. One of the BBK’s sub-projects focuses on implementing an overarching crisis management system at the national as well as the gouvernement level of this North African country and the Tunisian gouvernements correspond roughly to the state level in Germany. In this project, the BBK works closely with its Tunisian counterpart, the Office National de la Protection Civile (ONPC).

In 2014, the main focus in Tunisia was on training the ONPC’s multipliers in the area of administrative strategic

crisis management and a second focus was on improving the available vehicles and equipment to fight forest fires. Once the project started, the BBK began working with the Frankfurt am Main professional fire brigade and the ONPC to develop equipment programs, the results of which can now be seen at various sites in Tunisia. In 2014, the Siliana site in northwestern Tunisia received modern firefighting pickup trucks for fighting forest fires which are part of a larger system that includes technical equipment at the El Kef site which was delivered by the BBK the year before.

### Staff exercise as the grand finale

During the multiplier training, however, partners were not simply slotted into the German model; the training content and methods were adapted for Tunisian requirements, along with the ONPC – including the legal aspects. In 2014, the BBK held three seminar series in various Tunisian cities. The final series was called “From planning

meeting to staff exercise” and took place in November in Monastir. The most important lessons of this seminar were site evaluation, recognizing problem areas, setting priorities and establishing efficient decision-making processes.

As the course participants are expected to share their own proven knowledge and skills as ONPC trainers in the future, the seminars focused



Technical orientation for Tunisian civil protection forces



particularly on teaching methodological didactic knowledge in addition to developing scenarios for staff exercises.

The last seminar series concluded with an all-day staff exercise with the administrative staff of the Monastir gouvernement. The attendees included BBK President Christoph Unger and ONPC General Director Moez Dachraoui, who led the staff of the Monastir gouvernement's administration during the exercise. The exercise scenario was based on an incident that would be typical for the region: flooding of the Monastir gouvernement after persistent rainfall, entailing serious consequences such as wide-scale power outages, drinking water contamination, traffic blockages, infrastructure damage, a needy population, and, last but not least, a large number of affected tourists.

The staff exercise met with a good response not just from employees in the area of Tunisian disaster protection, but also from the country's press. All the observers pointed out the comprehensive training method and praised the seminar's ability to bring all the responsible actors to the table during a disaster in to make swift and effective decisions.

#### **Jordan: better prepared for C risks**

Despite the ongoing elimination of the Syrian chemical weapons arsenal, the risk from chemical materials has not yet been removed in Syria or the neighboring states. In this context, Germany and the Kingdom of Jordan launched a joint civil protection project in 2013 to provide educational and equipment assistance along with strategic medical support to ensure better protection for Jordan's civilian population and Syrian refugees on site.

Protection against chemical, biological, radiological, and nuclear threats (CBRN) is a central task within the BBK. BBK experts from various areas of speciali-

zation are constantly working to improve methods, processes, and systems for protecting the population from CBRN risks in their own labs and in close collaboration with state agencies, research institutions, and industrial companies. The findings are invaluable for the regions in the Near East facing specific and immediate threats, and the BBK's joint project with Jordanian civil protection, financed by the German Foreign Ministry, therefore focuses on the interdisciplinary transfer of methods and knowledge.

Similar to the previous year, the AKNZ carried out further education programs in 2014 that were specifically tailored to CBRN threats, and around 50 members of Jordan's civil protection forces took part. The content focused on advanced detection options including modern technology for taking samples and CBRN protective clothing that has been used successfully in Germany for years. The training also addressed medical care issues in the event of a major accident with large numbers of injured, for example attending to victims before they are transported to a clinic, and also discussed the emotional issues that the responsible incident forces can expect from victims. These and other issues were explored not just theoretically, but also in practical exercises.



### **Processes put to the test**

Public administrations are subject to constant change – their areas of responsibility are always expanding and shifting, therefore the structure and process organization also need to be constantly evaluated and adapted. This is the only way public institutions will be able to meet new challenges and fulfill their defined tasks efficiently and effectively at all times.

Against this backdrop, the BBK commissioned a wide-ranging analysis of its business processes in 2014 with the aim of bringing previously undiscovered optimization potential to light within its own organizational structure. The study results served as a basis for a tactical reorganization of the BBK's processes and structures: tasks were regrouped, and in some cases assigned to different

organizational areas; the number of units per department was also modified.

By updating its organizational structures, the BBK responded to the growing complexity and diversity of its tasks. In particular, the new Z (Central Services) department ensured a precise distribution of all the areas of activity and responsibilities. In addition, Department Z implements a modern service concept that can be used to provide and receive internal services within the BBK more flexibly and cost-effectively.

The reorganization took place in two steps. On October 1, 2014, Departments I and IV were restructured and Departments II, III, and the new Department Z followed in early 2015.

# Design

Of more efficient processes,  
improved response capacity

## **GMLZ: a global view of damage situations**

among all the responsible actors, which involves all the agencies and organizations participating in disaster protection and rescue activities at the federal, state and municipal levels. The aim of the federal and state German Joint Information and Situation Center (GMLZ) is to achieve this coordination.

The GMLZ acts as a central information interface that allows cross-organizational information and resource management during large-scale damage incidents. It monitors potential threat sources around the clock, interprets possible damage indicators and combines them to create a comprehensive overview. This enables even highly complex and multi-causal scenarios to be identified early on and prognoses can be made regarding

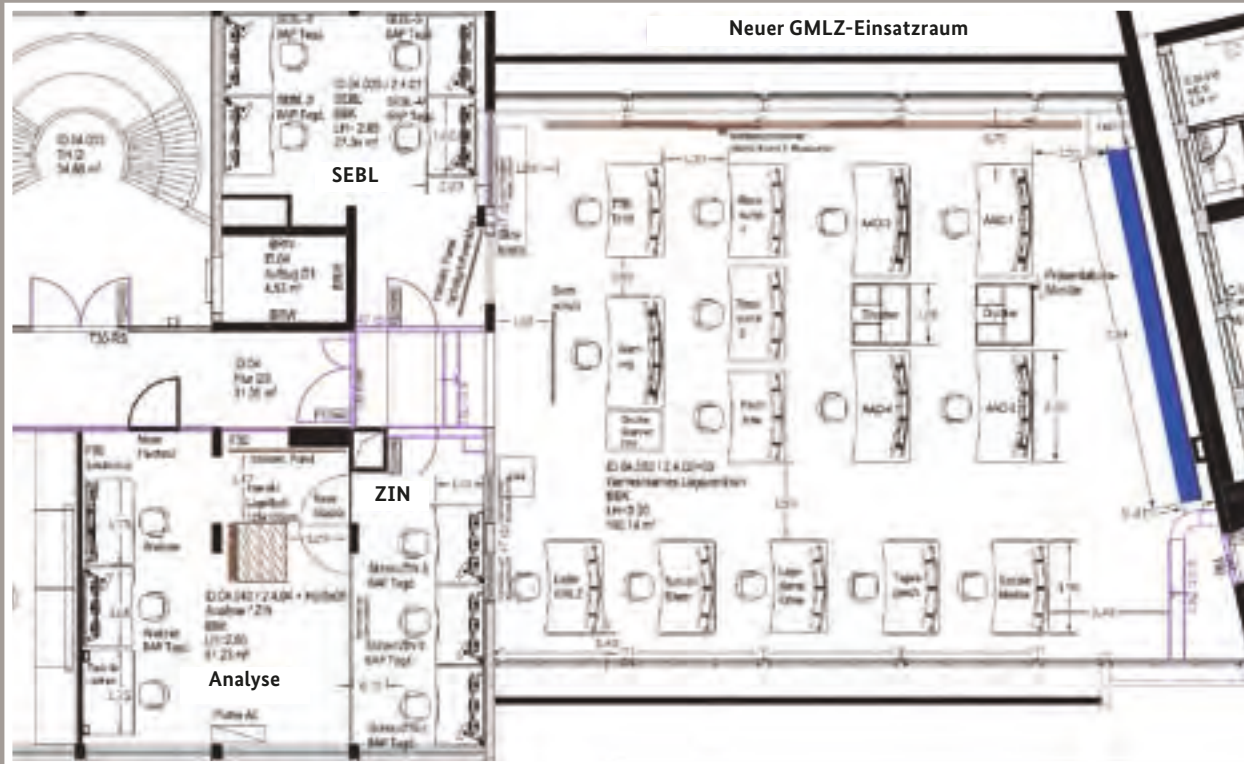
potential damage development. Effective recommendations for action can therefore be made very quickly.

## **Boosting the capacity for cooperative action**

Founded more than ten years ago, the GMLZ once again demonstrated its effectiveness during the severe flooding disaster in 2013. During the recent disaster, aid services for the affected regions were organized much more effectively across state borders than in the 2002 flood, when the GMLZ did not yet exist.

These successes do not mean however GMLZ employees can relax quite yet. In any case, they are never idle, and in 2014 laid the groundwork for a full upgrade of the structural technology equipment in the GMLZ. In addition to the actual incident center, the GMLZ will be moving into two additional rooms to create space for new tasks. This includes expanding their analytical and forecasting capacity, for example to improve the allocation of resources within the planned federal state strategy "Service Center for Federal/State Bottleneck Resources".

In terms of technology, the upgrade project aims to overhaul the IT and media systems in the GMLZ. In addition to new computer workstations, it includes a large-scale LCD media wall that renders conventional rear projectors unnecessary, the available space can then be used much more



The new GMLZ incident room: Large-scale media wall (blue) makes rear projection unnecessary and optimizes the use of space

efficiently. Another highlight is the interactive situation table designed by the Fraunhofer Institute IOBC in Karlsruhe, which is a kind of giant tablet PC with an additional vertical touch screen. Among others, this will enable several people to immediately work interactively on a digital situation map in the GMLZ.

#### A guiding light for planning: LÜKEX 2015

The GMLZ upgrade is part of an overall project to rebuild the operational centers of the BBK and the Federal Agency for Technical Relief (THW). This includes replacing the warning center and implementing technology to integrate the important warning functions into the GMLZ incident room. During the upgrade, the THW – which is housed in

the same building – will also set up a temporary office for the incident center and the tactical technical division. The new warning center is anticipated to be fully operational by LÜKEX in 2015 and the GMLZ renovation will begin immediately afterward. The positive effects of the upgrade should be seen in early 2016.

#### Digital procurement processes

In the summer of 2007, the federal and state governments agreed on a new policy for supplementary disaster protection equipment that was implemented in early 2008. Since then, the federal government has supplemented the disaster protection equipment of the various states with vehicles and technical devices. The vehicles are ordered by the



Federal Ministry of the Interior's procurement office (BeschA) and delivered to the BBK, which in turn allocates them to the receiving states and communities which are then registered as the keepers of the vehicle, but the BBK remains the vehicle owner.

By late 2014, the BBK had provided a total of 4,090 vehicles totaling around 209 million euros over the previous seven years. When distributing the vehicles, the BBK weighs up all the interests and issues of the individual state; the aim is to make the equipment supply as homogeneous as possible throughout all the states. The average vehicle equipment level has now reached 81% for civil protection in the various states.

#### **Kaufhaus des Bundes (Federal Department Store, KdB)**

The electronic ordering platform for the federal administration was created on December 10, 2003, following a resolution by the cabinet of the federal government to optimize public procurement processes. The KdB is a closed system with special access authorizations operated by the procurement office of the Federal Ministry of the Interior.

**>> [www.kdb.bund.de](http://www.kdb.bund.de)**

In purchasing replacement equipment for the vehicles, the BBK is breaking new ground with the BeschA: in future, the responsible state and municipal authorities will have the option of purchasing the corresponding products electronically through the "Kaufhaus des Bundes" ("Federal Department Store," KdB), thereby automatically benefiting from the KdB's framework agreements. The federal government's combined procurement power delivers tangible economic benefits in terms of more favorable purchase prices for example. In addition, eliminating complex price comparisons etc., makes the entire procurement process much more efficient, which in turn helps the state and municipal authorities cut administrative costs. The BBK and the BeschA are using their joint project to help implement the government's "Digital Administration 2020" project.

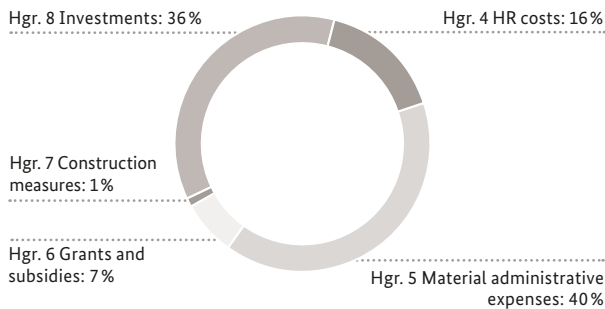
Similar to the previous year, in 2014 the BBK had to accept a slight budget decrease, and the budget in the past year declined by around 500,000 euros compared to 2013, to roughly 99 million. As in the previous year, a large part of the resources, just under half the total budget, was allocated to implementing the new federal equipment program in 2014. This strategy focuses on developing specialized skills for specific threat situations, i.e. managing a major accident or handling chemical, biological, radio-active or nuclear threat situations.

# BBK budget for 2014

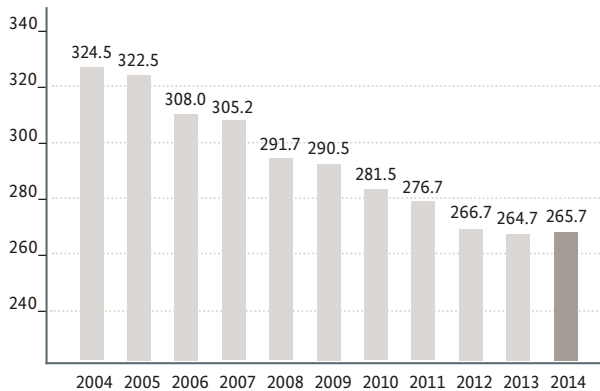
Achieving more with less!

Over the last year, the focus was on purchasing additional equipment vehicles, ambulances, and decontamination vehicles that are available for use by the state in peacetime in the event of a disaster. The BBK also pays for garage parking for the vehicles at the respective state sites, and extra funding was designated to training voluntary assistants at the BBK's Academy for Crisis Management, Emergency Planning and Civil Protection (AKNZ) in Ahrweiler. In addition to the ongoing expenditures for educational programs, the Academy also incurred initial costs in 2014 for the construction of a new conference and cafeteria building, which began in the spring of 2015.

**BBK budget group distribution among the individual cost areas (in %)**



**Development of the BBK's task numbers\***



\*jobs according to budget plan

# Legal notice

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