

UC RUSAL and the fight against Ebola in the Republic of Guinea

September 2017



RUSAL

EBOLA

A GLOBAL 21ST CENTURY CHALLENGE



2014-2016



Ebola Outbreak challenged healthcare systems worldwide

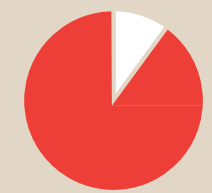
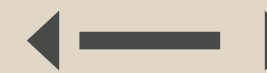
EVD



The Ebola Virus Disease is an acute disorder with high mortality rate



AVERAGE MORTALITY RATE



25%

90%

PREVIOUS OUTBREAKS MORTALITY RATES

1976



2014-2016 Ebola Outbreak most significant since first detection in 1976.

28,616

CASES OF INFECTION



11,310

PEOPLE DIED

Figures registered in Guinea, Liberia and Sierra Leone according to WHO*

2015: \$ 2.2bln loss



Economy threat: combined GDP loss of Guinea, Liberia and Sierra Leone. Food security, human resources and development of the private sector also threatened.

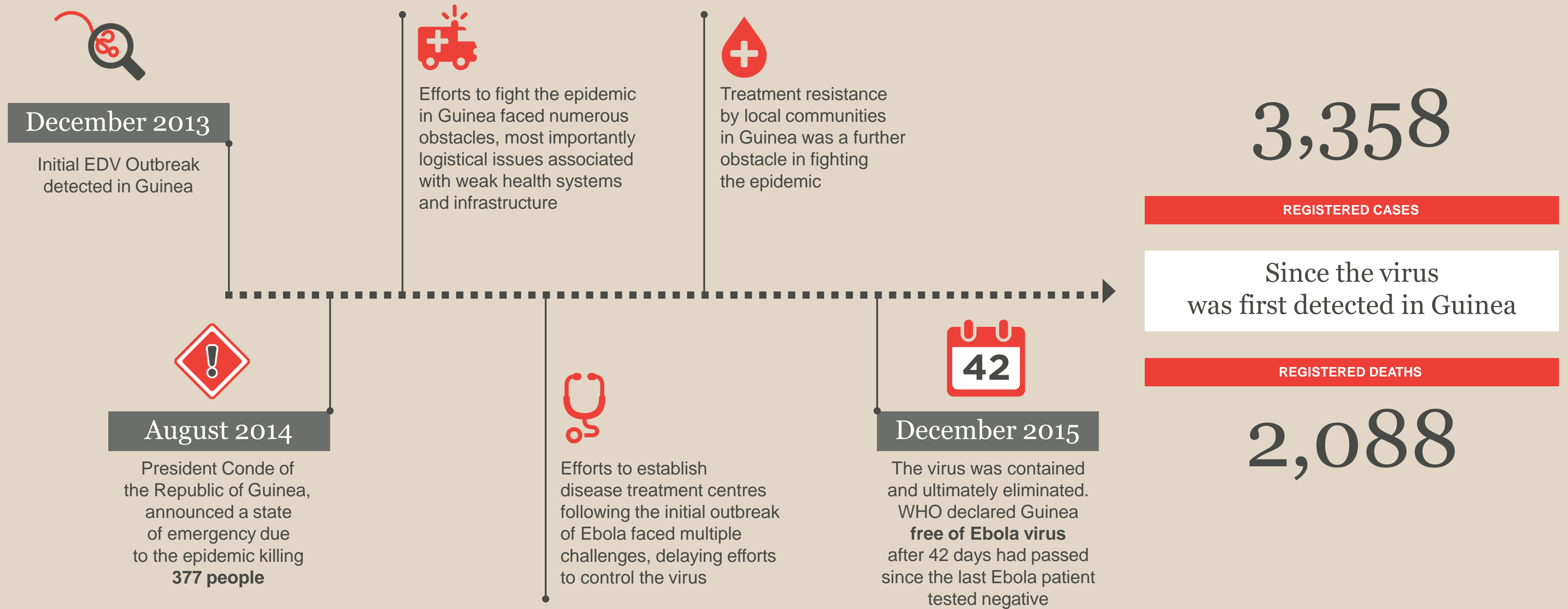


Effective coordination and communication across the private, public and third sectors is vital to ensure the prevention of a further epidemic.



GUINEA

IN THE MIDST OF THE SPREAD OF THE VIRUS



RUSAL

IN GUINEA: THE KEY FACTS

RUSAL, a leading global aluminium producer, is a significant player in the bauxite and alumina industry in Guinea and one of the country's largest private sector investors.



Guinea



As a leading social and economic driver in Guinea, the government awarded RUSAL in 2006 its status as a **socially oriented company**.

RUSAL commitment to creating shared value amongst all stakeholders has seen it invest in programmes focused on improving health and education standards within its areas of operation.

RUSAL's unequivocal commitment to the country meant the company worked collaboratively with all stakeholders to help contain the spread of the epidemic.

RUSAL is the owner of Compagnie des Bauxites de Kindia (CBK) and Friguia Bauxite and Alumina Complex. The Company is also developing the Dian-Dian project.

CBK operates one of the world's largest bauxite deposits which has been managed by RUSAL since 2001. CBK accounts for about 30% of the Company's total bauxite output. CBK's annual production capacity is 3.3 million tonnes. CBK employs over 1,200 people.

Friguia production complex includes a bauxite mine, an alumina refinery and a railway network.

Dian Dian is the world's largest bauxite deposit, with the Company being the owner of rights to develop this project.

50 days to build

RUSAL constructed the **Centre for epidemic and microbiological research and treatment** in the Guinean Kindia province.

The Centre was designed and constructed by **RUSAL specialists** with the assistance of Rospotrebnadzor scientists **using up-to-date Russian engineering and medical equipment**. All of the recommendations of the international aid organisations were taken into consideration.

62.5% recovery

Over the course of the EVD epidemic period, **the Centre witnessed the best survival rate in Guinea: 62.5%** of the Center's patients diagnosed with EVD have recovered.

The Centre was commissioned as a **medical institution** of the Ministry of Health of the Republic of Guinea and was included in the Guinean national system of preventing the spread of Ebola.

\$20m invested

At present, RUSAL has invested \$20m in addressing the Ebola crisis in Guinea.





RUSAL has become the world's first public company to implement a major construction project aimed at fighting the spread of the Ebola virus

RUSAL, ROSPOTREBNADZOR AND THE RUSSIAN MINISTRY OF HEALTHCARE IN THE FIGHT AGAINST THE EBOLA OUTBREAK



1

April 2014

RUSAL became the first foreign company in Guinea to enter the fight against Ebola.

23

October 2014

In Moscow, RUSAL and Rospotrebnadzor signed a Cooperation Agreement that committed the company to play a leading role in the treatment and prevention of the Ebola epidemic.



3

March 2015

In Brussels, RUSAL convened a high level working group including Anna Popova, the Head of Rospotrebnadzor, and President Conde of the Republic of Guinea. At this meeting a joint programme was agreed to fight the further spread of the outbreak in West Africa.

23

May 2016



In Geneva, in the presence of Margaret Chan, WHO Director General, with a representative of the Russian Federation to the United Nations in cooperation with the Ministry of Healthcare of the Russian Federation, ICC Russia and RUSAL, a roundtable on the theme: **Russian vaccine against Ebola: prospects for joint activities** took place. It was dedicated to the discussion on the Russian vaccine against Ebola and the possibilities of its application on the territory of the Republic of Guinea.

At this meeting it was agreed between the Government of Guinea and the Government of Russia that the Russian vaccine **GamEvac Combi** would be employed in-country to combat the epidemic.

RUSAL, ROSPOTREBNADZOR AND THE RUSSIAN MINISTRY OF HEALTHCARE IN THE FIGHT AGAINST THE EBOLA OUTBREAK



16

June 2016

In **St. Petersburg**, RUSAL arranged a roundtable discussion “**The economic impact of epidemics: a case study of public–private partnership in the fight against Ebola**”.

Representatives of WHO, Médecins Sans Frontières, World Humanitarian Summit, Global Health Investment Fund, Rospotrebnadzor, Russian Ministry of Health participated.

According to World Bank, a total of USD7 billion had been spent on the fight with Ebola, but questions remain how efficiently these funds were spent.

Delegates discussed a **global strategy** to be developed and put in place which will allow the international community to efficiently respond and provide help.

15

February 2017



In Kindia, Guinea, RUSAL together with the Russian authorities opened **modern laboratory facilities**, which are designed for combatting highly infectious diseases. The new lab will be **unparalleled in the region of West Africa** in terms of its application of advanced technologies and its system of biosecurity.

The laboratory, built in cooperation with Rospotrebnadzor and its research units, was established as a part of RUSAL’s Centre for Epidemic and Microbiological Research and Treatment.

The lab was established to ensure a high degree of security when performing laboratory research and has **Biosafety Level 3** according to international classification.

RUSSIAN VACCINE AGAINST EBOLA DELIVERED TO GUINEA WITH THE SUPPORT OF RUSAL



July 2017

The **Russian State Gamaleya Institute for Epidemiology and Microbiology in Moscow** developed a vaccine against Ebola under the working directive of the President and obtained Russian state registration.

The two variants of the vaccine – named **GamEvac Combi** and **GamEvac** – is the **world's first officially registered vaccine** approved for clinical use for the prevention of the usually fatal hemorrhagic fever caused by the Ebola virus.

The vaccine was bio-engineered without pathogenic Ebola viruses. The basis of this vaccine is the genetic material of adenovirus and the vesicular stomatitis virus which are safe for humans.

In July 2017, **the first batch of 1,000 Ebola vaccine doses** were sent from Russia to Guinea with the support of RUSAL to be administered at RUSAL's Centre for epidemic and microbiological research and treatment.



August 2017

Vaccination of volunteers began at the premises of RUSAL's Epidemiology Center in Kindia region, Guinea. The test includes the vaccination of over a thousand volunteers followed by the observation and monitoring of their health and immune system for one year.

In order to properly manage the post-authorisation study of the Russian vaccine, the Ministry of Health of Guinea set up **the National Vaccination Assistance Committee led by Chairman, Dr. Sakoba Keita**, Head of the Sanitary Protection Agency of Guinea.

Successful results will allow the **application of the Russian vaccine** as a preventive Ebola treatment **worldwide**.



RUSSIAN GOVERNMENT

SUPPORT INITIATIVES TO ASSIST GUINEA IN THE FIGHT AGAINST EBOLA



RUSAL has worked collaboratively with the Russian government to fight the epidemic in Guinea, including:



Providing **logistical support** for the special anti-epidemic team of the Russian Rospotrebnadzor in Guinea.

Helping to establish the **Russian mobile laboratory** in the Guinean territory.

Obtaining the permission of the Ethics Committee of the Republic of Guinea to **examine the biological material** obtained in the country.

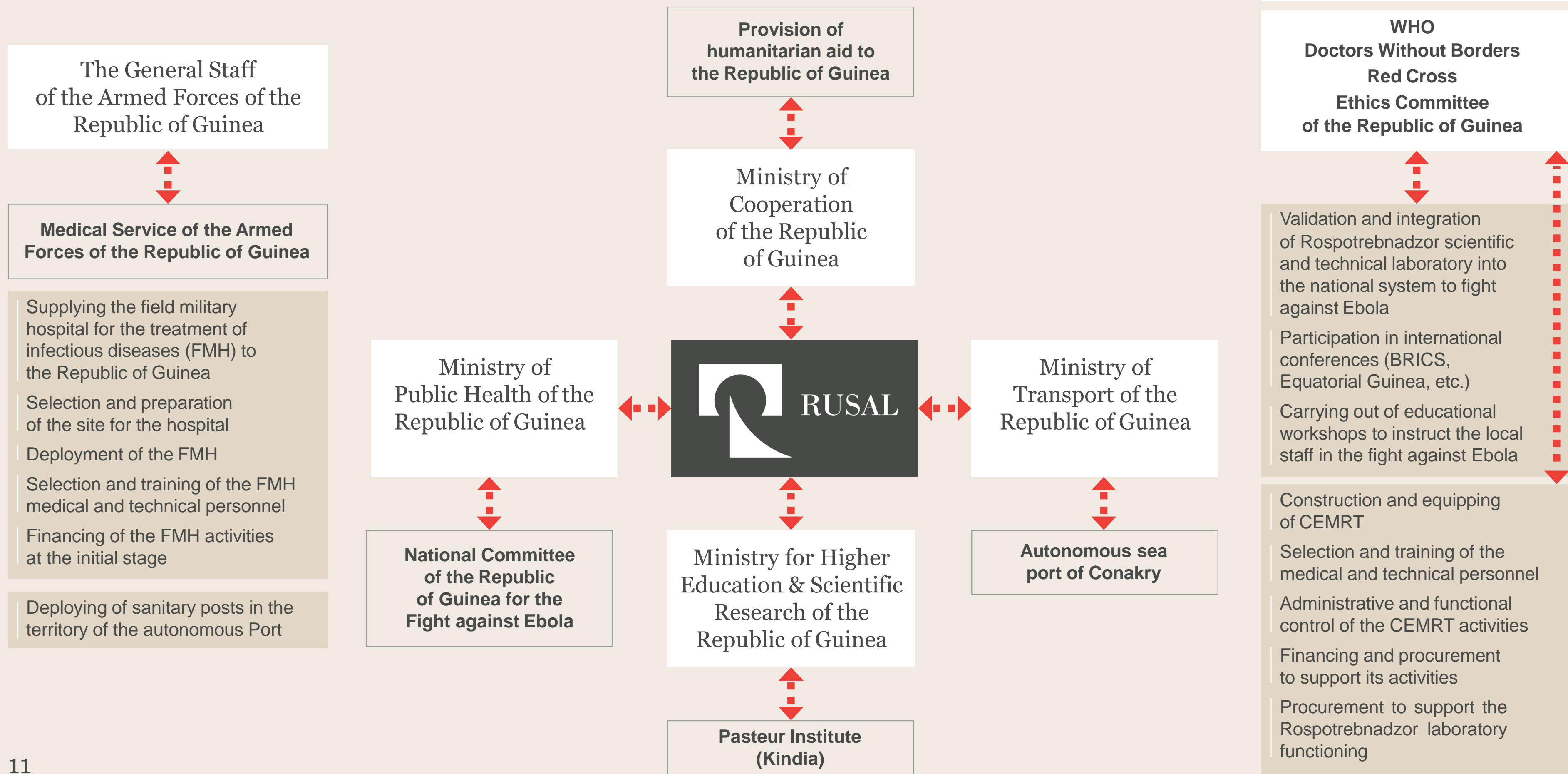
Establishing the **field military hospital** for treatment of infectious diseases (FMH) for **200 beds**, donated by the Russian Federation. RUSAL organized and funded the training of the qualified military medical staff operating FMH. During the epidemic, FMH provided more than **4,500 people** with free and qualified medical aid.

Delivering **39 tonnes of humanitarian relief** and organised the system of the sanitary posts in the Conakry sea port.

Convening scientific and logistical workshops in partnership with leading scientists of the Russian Federation, including academician V.V.Maleev, professor K.V.Zhdanov and facilitated Russian representatives to participate in international scientific congresses.

KEY STAKEHOLDERS

EFFECTIVE COORDINATION



MID-TERM RESULTS AND PERSPECTIVES



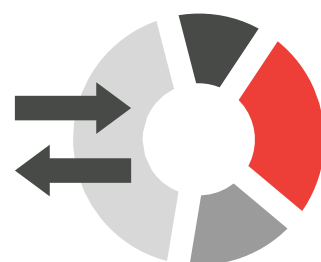
Today, thanks to the effective efforts of the international community, including Russia, the EVD has been contained and ongoing risk mitigated.



However, the possibility of a new EVD outbreak or other dangerous infection exists. It is impossible to predict when a new threat will emerge, however, the international community must work together to ensure a more effective response in the future.



A new system, which will quickly and effectively share information and combine the efforts of international organisations, states and the private sector, is required at a global level to tackle such emergencies.



In Guinea, RUSAL has demonstrated that it has the unique experience of a rapid response to emergencies by mobilising international and domestic resources and effectively interacting with the government and non-governmental organisations to provide assistance on the ground.





It is vital to record lessons-learned in light of the most recent epidemic to ensure more effective coordination to combat any future threats.



The cooperation continues!

