Infectious diseases cause 13 million deaths each year around the world, predominantly in developing countries.

For 45 years, Fondation Mérieux has been taking action to help ensure that every child, woman and man has fairer access to essential healthcare.
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1974 Bamako (Mali)
Doctor Charles Mérieux created Fondation Mérieux in 1967. By initiating a dialogue between North and South, his aim was to combat the infectious diseases that afflict developing countries, ignoring borders between continents and boundaries between human and veterinary medicine.

This led to an epic adventure in vaccination and preventive medicine, punctuated by major advances in public health, such as the 1974 vaccination campaign in Brazil and the creation of Bioforce to provide logistical training for the coordinators of humanitarian initiatives. The Fondation later became involved in research into emerging pathogens with, in particular, the construction of the P4 Jean Mérieux Laboratory.

Gradually, at the impetus of Dr. Christophe Mérieux, we redirected our efforts towards the field, at the heart of disease outbreaks, in an area where we are recognized for our expertise: biological diagnostics. Without diagnostics, medicine is blind. We therefore decided to enhance diagnostic capabilities in developing countries, by creating laboratories of excellence in infectious disease - the Rodolphe Mérieux Laboratories - equipping them with high-performance tools, training healthcare personnel, and offering support through applied research programs. In addition to these central laboratories, we also renovate clinical laboratories within regional hospitals to give local populations access to improved diagnostic accuracy for better patient outcomes.
45 years of dedication...

“For medicine that is innovative, plentiful and available throughout the world”

We now have a presence in Mali, Madagascar, Haiti, Cambodia, Laos, Myanmar, Lebanon and Tajikistan, and will soon be in Brazil and Bangladesh.

We have been able to foster such a network through close collaboration with local healthcare leaders. Today, the GABRIEL and RESAOLAB networks bring together biologists and healthcare professionals, working in our areas of focus.

We are making progress, shoulder to shoulder, with the researchers, doctors, biologists, universities, public healthcare organizations and government institutions who work in the field. We all share the same long-term vision of an integrated approach to healthcare, combining medicine, nutrition, water quality and education.

In 2012, we celebrated 45 years of action in the fight against infectious diseases. This action was made possible thanks to the outstanding mobilization of participants hailing from very diverse backgrounds and the unwavering support of our partners, such as Sanofi Pasteur, who have worked with us for many years. I pay tribute to them all.

We all believe in one grand idea. That idea was born in 1897 and nurtured by Marcel Mérieux, who studied under Louis Pasteur, and then carried on by Drs. Charles and Christophe Mérieux. We have developed this idea over the years to give it greater momentum, moving towards medicine that is innovative, plentiful, available throughout the world and accessible to the most underprivileged populations.

It is an idea that we must take even further, as there is still a very long way to go.
How could we have created Rodolphe Mérieux Laboratories on 5 continents without the engagement of local partners, dedicated to public health?...
How could we have designed the GABRIEL network or the RESAOLAB program in West Africa without our partners to determine with us how to confront the challenges posed by infectious disease?

Since its creation in 1967, Fondation Mérieux approaches its mission through partnerships, bringing together public and private stakeholders, across borders, united around a common mission and drawing on synergies of expertise and resources to provide fairer access to healthcare for vulnerable populations.

From the very beginning, this partnership approach has been in the Fondation’s “genes”. We have reaffirmed it more recently in developing innovative initiatives to address infectious disease challenges in developing countries.

New partnerships in 2012 took us to new territories such as Amazonia, Tajikistan and Bangladesh. They reinforce our integrated approach to healthcare, without boundaries between human and veterinarian medicine, in close alliance with local stakeholders.

Through the growing involvement of our partners, and backed by the confidence of the Mérieux family, the Fondation’s teams strengthen, year by year, the impact of the projects we conduct locally in infectious hotbeds to help vulnerable populations.

Together, we want to strengthen local capacity and encourage the adoption of research and training programs to expand the means that are available to fight infectious diseases, which are a concern to us all.
AN ORIGINAL MODEL FOR ACTION

Fondation Mérieux offers an original model for action, based on an integrated approach to addressing public health issues and a long-standing expertise in clinical biology.

Its mission is to enhance local capacities in developing countries to reduce the impact of infectious diseases on vulnerable populations.

70% of medical decisions are based on diagnostics, making them an essential part of healthcare at both individual and collective levels. By providing relevant and reliable results, biological diagnostics make it possible to identify pathogens, prescribe the right treatment for each patient, and monitor its effects.

On a wider scale, diagnostics are indispensable for epidemiological surveillance and establishing appropriate public health policies and prevention initiatives.

However, developing countries very often lack facilities for clinical analyses, high-quality diagnostic tools, qualified personnel and effective research resources.

Access to improved diagnostic accuracy for better patient outcomes is one of Fondation Mérieux’s top priorities. To achieve this, Fondation Mérieux works closely with Fondation Christophe et Rodolphe Mérieux, an independent family foundation under the auspices of the Institut de France, for which it operates in the field.
FOCUSED ON 3 OBJECTIVES

1. ENHANCING LOCAL RESEARCH CAPABILITIES through collaborative programs on the pathologies specific to underprivileged countries, providing training for researchers, and developing diagnostic tools for improved identification of infectious diseases.

2. INCREASING VULNERABLE POPULATIONS’ ACCESS TO DIAGNOSTICS by strengthening clinical biology capacities in regional public health centers.

3. ENCOURAGING DIALOGUE AND KNOWLEDGE-SHARING within the public health community to contribute to the dissemination and development of expertise and innovative projects.

RESOURCES TO TAKE ACTION

- 100 people working in more than ten countries around the world
- An international network of 13 training and research centers
- Several hundred infectious disease experts involved in training and public health programs
- Several thousand healthcare professionals trained locally to provide better care for vulnerable populations
- Integrated research teams bringing together some 15 researchers at the Emerging Pathogens Laboratory in Lyon and the Christophe Mérieux Laboratory in Beijing
- The GABRIEL* network federating 15 research units in different countries
- An annual budget of close to €15 million
- A family foundation based in Lyon with a presence in the USA, China and close to a dozen developing countries

* Global Approach for Biological Research on Infectious Epidemics in Low-income countries

NETWORKING TO TAKE ACTION

To fulfill its mission in public health, the Fondation builds international networks and actively develops partnerships spanning all relevant disciplines. It works closely with developing countries’ health authorities, public and private academic research bodies, international organizations, governments, development banks, foundations, NGOs and the healthcare industry.

1999  Creation of  the P4 Jean Mérieux Laboratory
1. ENHANCING RESEARCH CAPABILITIES

Fondation Mérieux has its own research teams, which are a key asset in fulfilling its mission and a foundation for its expertise.

Today, this applied research capability is structured around two units:

- the Emerging Pathogens Laboratory, part of the International Center for Infectiology Research at Gerland in Lyon (France),
- the Christophe Mérieux Laboratory in Beijing (China), part of the Institute of Pathogen Biology at the Chinese Academy of Medical Sciences (CAMS).
Researchers benefit from preferential access to the P4 Jean Mérieux Laboratory, a BSL4 maximum-security unit dedicated exclusively to emerging pathogen research, belonging to the Fondation and managed by Inserm, the French national institute for health and medical research. The Fondation research teams also have access to the CAMS technical platforms in Beijing.

The Fondation’s teams are working on the development and validation of molecular diagnostic tools for use in infectious disease surveillance in the GABRIEL network laboratories, located in developing and emerging countries. In collaboration with its partners, Fondation Mérieux is contributing to building reliable epidemiological databases that will help to develop appropriate public health policies. It also runs research programs to identify and characterize new pathogens, biomarkers associated with certain diseases, and resistance to antibiotics.

In partnership with local healthcare authorities and stakeholders, the Fondation sets up laboratories of excellence, the Rodolphe Mérieux Laboratories, which have two objectives: applied research in infectious disease, and training. Since 2005, six Rodolphe Mérieux Laboratories have been created and contribute to building capacities in applied research, training and biological analysis in their surrounding regions. Two new projects, in Brazil and Bangladesh, are underway.

GABRIEL: A NETWORK IN ACTION

The Fondation takes a collaborative and multi-partner approach to research, in which the GABRIEL (Global Approach for Biological Research on Infectious Epidemics in Low-income countries) network serves as a catalyst. Its goal is to foster the sharing of skills and knowledge, to facilitate the implementation of applied research programs and epidemiological studies with the goal of improving the diagnosis, prevention and treatment of infectious diseases.

This collaborative international scientific network was created by the Fondation and is supported by the Lyon and Beijing research laboratories. It brings together a variety of members, including the Rodolphe Mérieux Laboratories, local laboratories of excellence, academic research centers, hospitals, private companies, etc.

GABRIEL has met with considerable success and now connects members from 15 countries: Brazil, Cambodia, Cameroon, Canada, China, France, Georgia, Haiti, Laos, Lebanon, Luxembourg, Madagascar, Mali, Mongolia and Paraguay. A Ukrainian university is due to join GABRIEL in 2013. Partnerships
have also been established with Institut Pasteur, Inserm and the World Health Organization (WHO).

**GABRIEL HAS THREE OBJECTIVES:**

- enhancing and harmonizing research capabilities in developing countries in the areas of pathogen detection, identification and surveillance,
- running multi-center studies on infectious diseases with significant impact on public health,
- harmonizing applied research methodologies by transferring technology and implementing quality assurance procedures.

**STRUCTURING APPLIED RESEARCH WITH AFRICARAMI**

The multi-center AFRICARAMI* project, launched in 2009, is an example of the collaborative approach developed by the Fondation to structure applied research in developing countries.

The AFRICARAMI scientific and technical network aims to reinforce research capabilities in four countries: Cameroon (Biotechnology Center at the University of Yaoundé), Mali (Charles Mérieux Infectiology Center in Bamako), Madagascar (Charles Mérieux Center of Infectiology in Antananarivo) and Haiti (GHESKIO Centers in Port-au-Prince).

The project will receive 1 million in funding over three years from the ACP Science and Technology Programme and the European Commission.

AFRICARAMI facilitates the creation of independent and sustainable research programs aiming to:

- establish effective regional and national partnerships to enhance coordination and the exchange of research between laboratories,
- foster research policies aligned with local priorities,
- improve researchers’ scientific skills through joint-training courses with each partner,
- increase the dissemination of results to improve the visibility of research activities within the scientific community.

**SOLID PROGRESS:**

- 63 participating institutions
- 3 research protocols accepted by ethics committees
- 8 protocols on tuberculosis and pneumonia underway
- 450 scientists trained on seven training modules
- 12 scientific presentations at international conferences
- 2 seminars organized

* African and Caribbean network to support the fight against infectious diseases
FIGHTING RESPIRATORY INFECTIONS AND MULTIDRUG-RESISTANT TUBERCULOSIS

With its teams in Lyon and Beijing, as well as its GABRIEL network partners, Fondation Mérieux is coordinating collaborative applied research programs in two priority areas: respiratory infections and multidrug-resistant tuberculosis.

It is also working on other particularly severe infectious diseases and implementing local initiatives on issues specific to certain areas: diarrheal diseases, typhoid fever, malaria, fevers of unknown origin, neglected tropical diseases, HIV and hepatitis.

“With respect to malaria, there is hope. In addition to the anticipated vaccine, strategies have been developed that, applied on a large scale, could significantly reduce the number of deaths caused by malaria and meet the objectives set by the Millennium Development Goals. (…) Today, infectious diseases - and indeed non-infectious diseases - know no borders. (…) The true solution to these problems is solidarity and sharing. It is through solidarity and sharing that we will be able to harness the solutions made possible by technology and techniques. True democratization of healthcare - global health - is when public healthcare strategies include the largest possible number of people, and also when the most underprivileged populations have the access they need. (…) The challenge for the future of global health is to develop the capacities within our countries to enable communities to think and find solutions for themselves. Today, this goal is within reach. I have seen it for real during the GABRIEL network’s working days, whereby 20 countries work together in the field of infectious diseases. A network is a horizontal organization where each hub contributes something extra.

In Mali, we are part of a hub conducting research on malaria, thus making our contribution to the fight against this disease. This is what global health is all about.”

Tuberculosis is responsible for 1.7 million deaths each year. Due to difficulties in diagnosis and the development of multidrug-resistant strains, only 60% of cases are identified, making this disease a major public health issue.

Pneumonia is currently the #1 cause of death in children under 5. Every minute, 4 children are lost to this disease.
UNDERSTANDING SEVERE RESPIRATORY INFECTIONS WITH ISARIC

In 2012, the GABRIEL network joined ISARIC (International Severe Acute Respiratory Infection Consortium), initiated by the Wellcome Trust and backed by the Medical Research Council, the Bill & Melinda Gates Foundation and Inserm. Based on multi-regional collaboration between research networks, ISARIC’s objective is to run international clinical research activities during the intervals between flu pandemics. It provides a collaborative platform enabling clinical trials to be set up quickly in response to the emergence of a new respiratory pathogen or the advent of a new infectious epidemic.

IDENTIFYING THE CAUSES OF PNEUMONIA IN CHILDREN

A multi-center epidemiological pilot trial involving 2,200 children is underway to identify the viral or bacterial agents that cause severe pneumonia in children under five years of age. The study is being conducted by members of the GABRIEL network in ten countries and the molecular tests being used were developed by the Emerging Pathogens Laboratory in Lyon. Thanks to the support of Sanofi Pasteur, the trial was extended to include two sites in India. The study, which is currently underway in China, Cambodia, Madagascar, Mali, Brazil, Paraguay, Lebanon, Haiti and Mongolia, was the subject of an initial scientific publication in 2012 and is due for completion in 2013. The data obtained is analyzed in collaboration with the Epidemiology and Public Health Group, UMR CNRS 5558, University Lyon I and Edouard Herriot Hospital.

IDENTIFYING THE VIRAL AGENTS BEHIND A FLU-LIKE SYNDROME

In 2012, staff at the Christophe Mérieux Laboratory documented the role and diversity of pathogens causing cases of flu-like syndrome observed in hospitals in Beijing. In order to improve patient care and determine the most appropriate treatment, it is important to identify the virus responsible for the infection. As a result of this research, the laboratory has published nine scientific papers on the flu virus, respiratory syncytial virus, metapneumovirus, bocavirus, enteroviruses and adenoviruses.

PREVENTING RESISTANCE TO ANTIBIOTICS: GENOMIC SEQUENCING

As part of the fight against multidrug-resistant tuberculosis, Fondation Mérieux is coordinating a project aiming to identify the genomic markers for resistance to antibiotics. The methodology is based on sequencing the complete bacterial genome on a high-throughput platform using isolates chosen for the resistance of their phenotype. This collaborative project is founded upon a number of partnerships: the isolates analyzed in 2012 originated from Georgia (National Center for Tuberculosis and Lung Diseases) and Haiti (GHESKIO Centers), sequencing is carried out using the genomic platform at the University of Lyon (ProfileXpert), and secondary and tertiary analysis is carried out in partnership with Genostar. A database of clinical, biological and genomic information is currently being compiled.
In 2012, Fondation Mérieux research teams submitted 12 papers that were published in scientific journals.

- Potential implication of new torque teno mini viruses in parapneumonic empyema in children. Eur Respir J.
- Coxsackievirus A21, enterovirus 68, and acute respiratory tract infection, China. Emerg Infect Dis.

Since the launch of the GABRIEL network in 2008, its members have published more than 170 scientific papers.
Fondation Mérieux possesses world-renowned expertise in the creation and renovation of clinical laboratories dedicated to infectious disease diagnostics.
Around the Rodolphe Mérieux Laboratories, Fondation Mérieux creates and renovates clinical laboratories within regional hospitals and healthcare organizations to give local populations access to accurate diagnoses and thus improve patient care. The Fondation helps these laboratories to get started by providing all the necessary equipment (laboratory benches, microscopes, diagnostic tools, etc.), in compliance with international quality and biosafety standards. In parallel, the Fondation offers training for laboratory staff in techniques appropriate for the diseases prevalent in developing countries. It fosters national and international laboratory networks to promote the sharing of experience and harmonization of practices, thus strengthening the healthcare systems of these countries.

In the last ten years, 15 hospital laboratories have been renovated in this way, bringing access to diagnostics to remote areas that are often poorly equipped in terms of healthcare facilities. The direct consequences for patients include less travel and an often crucial reduction in the time before receiving treatment or being monitored for certain diseases. In addition, the Fondation has initiated training courses leading to a diploma: in Haiti and Mali, there is the BAMS* course for senior laboratory technicians and, in Cambodia, the D.E.S. (diploma of specialist studies) in Medical Biology for doctors and pharmacists. (see page 22).

* Bachelor of Science in Biological and Applied Medical Sciences

Diagnostics and Mobile Telephony

The most recent information and communication technologies are harnessed to improve diagnostic capabilities. In addition, Fondation Mérieux participates in innovative projects using mobile telephony, such as VOICES*, to provide care for isolated populations and collect epidemiological data. Computer networks are being developed to enable biologists to work together and improve their working practices.

* Voice-based Community-centric mobile Services for social development (see page 31)
Working through multi-disciplinary networks is a common thread throughout all Fondation Mérieux activities and is a major factor in the long-term success and sustainability of its projects. Programs such as RESAOLAB exemplify this approach.

The first phase of RESAOLAB, initiated in 2009 in West Africa thanks to co-funding from the Agence Française de Développement (French development agency), will come to a close in 2013. Its goal is to reinforce the quality of clinical laboratory services and systems in Burkina Faso, Mali and Senegal through a regional and multi-disciplinary approach.

Three years after its launch, RESAOLAB has made it possible to run major continuing training programs, to equip training and quality assurance laboratories, to implement epidemiological surveillance programs and to create a particularly active network that should, during a second phase, RESAOLAB+, be extended to other countries in Africa. (see page 29)

RESAOLAB is part of a movement in participating countries to strengthen their laboratory systems. In particular, it has led to the creation of the National Laboratory Department in Senegal, promoted the drafting of a national laboratories policy in Mali, and provided support to the Laboratory Department in Burkina Faso.
Regarding Fondation Mérieux’s partnership with the IDB, two examples illustrate the relevance of the Fondation’s strategy. Even today, some samples are sent abroad in order to confirm a diagnosis. Through its laboratory network, the Fondation helps countries to eliminate this need and become self-sufficient.

Secondly, in many African countries and not that long ago, patients arriving at a healthcare center with a fever were treated with quinine and typhomycin, on the basis that “if it’s not malaria, it might be typhoid fever”. This situation can be avoided today thanks to the laboratories. (…)
Les Pensières Conference Center is a venue for meetings and North-South and South-South dialogue, dedicated to scientific discussion and disseminating innovation. For more than 40 years, it has welcomed healthcare professionals (researchers, clinicians, biologists, pharmacists, veterinarians, representatives of healthcare and regulatory authorities, etc.) across disciplines and countries, to attend high-level conferences and institutional training courses.

Les Pensières was created with an initial focus on vaccinology, but now extends its activities to diagnostics and other issues with an impact on public health, such as nutrition, food safety and access to safe water.

Through Les Pensières, the Fondation is able to share scientific expertise internationally and enhance knowledge in the fight against infectious diseases. It is at the origin of an outstanding multi-disciplinary network of specialists that is poised to advance public health on a global scale.
In 2012, 85 conferences and training courses were held at Les Pensières, with internationally renowned speakers and over 3,500 participants from around the world.

THE CONFERENCE PROGRAM INCLUDED:

- **BETTER FOOD FOR BETTER HEALTH**: in the field of nutrition and health,
- **LES CENTS GARDES**: an international conference on HIV/AIDS vaccine research,
- **MATERNAL IMMUNIZATION**: a conference addressing challenges and opportunities for vaccination during pregnancy,
- **ENTERIC INFECTIONS**: on the issue of acute and chronic diarrheal diseases,
- **GLOBAL LABORATORY INITIATIVE MEETING**: organized in partnership with WHO and Stop TB, dedicated to the challenges of diagnosing tuberculosis as part of efforts to control the disease in developing countries,
- **MOVING FORWARD**: organized in collaboration with the London School of Hygiene and Tropical Medicine, to consider the latest needs and solutions in the diagnosis of infectious diseases in resource-limited countries.

Fondation Mérieux also organizes or supports scientific conferences in various countries around the world.

2012 INTERNATIONAL CONFERENCES INCLUDED:

- **INTERNATIONAL VACCINOLOGY WORKSHOP TOKYO** (Japan): fifth edition of the vaccinology workshop on the future of immunization,
- **SOUTH AMERICA VACCINOLOGY WORKSHOP** (Brazil): eighth edition, reviewing the latest knowledge and sharing recent experience on the subject of epidemiology and vaccination campaigns,
- **AGING AND IMMUNITY** (Italy): organized in collaboration with vaccine manufacturers and dedicated to issues specific to aging in the field of infectious disease.

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2008 Christophe Mérieux Prize awarded by the *Institut de France* to Professor François Nosten (Thailand)
TRAINING HEALTHCARE PROFESSIONALS

There is little point in strengthening clinical testing structures in developing countries unless this is underpinned by initiatives to train local healthcare professionals, both laboratory technicians and the leading doctors and scientists of the future. The Fondation has honed its expertise in this area, establishing links with universities and training organizations such as the ESTBB*, the University of Geneva and the London School of Hygiene and Tropical Medicine. In this way, it has implemented a number of training and knowledge-sharing programs intended to reinforce biological expertise in the field and to raise awareness among opinion leaders regarding major public health issues (including vaccinology, diagnostics, emerging pathogens and neglected diseases).

It also contributes to building teaching curriculums in pharmacy and biology at the university level. The Universities of Health Sciences in Phnom Penh and Antananarivo are examples of this commitment.

The Fondation places emphasis on training in the field so that students are working in their own countries and encouraged to remain there to become the healthcare professionals of tomorrow.

These local training courses are delivered in Charles and Christophe Mérieux Infectiology Centers such as those in Bamako and Vientiane.

A Bachelor of Science in Biological and Applied Medical Sciences (BAMS) has been established in Haiti, with the support of the French AnBer Foundation, and in Mali, thanks to funding from the Islamic Development Bank. Since its launch in 2007, about one hundred laboratory technicians have completed the program, delivered in partnership with the ESTBB.

Other training courses leading to qualifications have also been set up, including a diploma of specialist studies in medical biology at the University of Health Sciences in Cambodia.

RAISING AWARENESS AMONG OPINION LEADERS

Institutional training courses are offered at Les Pensières conference center for members of the public health community in developing countries. The aim is that doctors, biologists and the representatives of regulatory bodies and health authorities from these countries subsequently pass on these skills and improve practices at a local level.

IN 2012, THESE TRAINING COURSES INCLUDED:

- ADVANCED VACCINOLOGY COURSE (ADVAC): thirteenth edition of this vaccinology training course, organized with the University of Geneva.
- ADVANCED COURSE ON DIAGNOSTICS (ACDx): third edition of a training course organized in partnership with the London School of Hygiene and Tropical Medicine, dedicated to the diagnosis of infectious disease.
It is clear that we must improve patient care in developing countries and create networks of healthcare facilities. This applies for HIV/AIDS and for other diseases. This implies not only the need to strengthen infrastructure to establish efficient reference healthcare centers, but also to reinforce training capabilities for all healthcare workers: from caregivers to doctors, they all have an important role to play.

This training aspect is essential. We must train the instructors who will train, step by step, the teams staffing the healthcare centers in these networks. We must also educate the local communities, so that they can be relied upon for the crucial first step, diagnosis, and also to work with them to gain easier access to the population.”
2009 Inauguration of the Rodolphe Mérieux Laboratory in Vientiane (Laos)
In 2012, the Fondation intensified its support for its long-standing partner, GHeSKIo (Haitian Group for the Study of Kaposi’s Sarcoma and Opportunistic Infections), taking action to strengthen Haiti’s medical diagnostic capabilities, particularly through technical support to the microbiology laboratory. Today, 70 people work at the Rodolphe Mérieux Laboratory, created by the Fondation as part of GHeSKIo’s Institute of Infectious Diseases and Reproductive Health (IMIS). Every day, this team works to diagnose multi-resistant tuberculosis, cholera and HIV, playing a key role in the fight against infectious diseases and the prevention of epidemics.
BAMS TRAINING

Building on the success of the training course established in Mali in 2007, Fondation Mérieux has implemented a Bachelor of Science in Biological and Applied Medical Sciences (BAMS) in Haiti. The course, which leads to a qualification, is organized in collaboration with the ESTBB (School of Biology, Biochemistry and Biotechnology) at the Catholic University of Lyon, the National Public Health Laboratory in Port-au-Prince, and Haiti’s Ministry of Public Health and Population. Its aim is to improve laboratory technicians’ biomedic analysis skills and knowledge of quality assurance regulations.

The second BAMS class, comprising 18 new trainees, started the course in September 2012.

SUPPORTING HAITIAN WOMEN LIVING WITH HIV

The program of micro-credit loans for women living with HIV was continued throughout 2012, in partnership with the ACME (Haitian cooperative association for micro-enterprises) and the GHESKIO Centers. The women participating in this project, who all live in Port-au-Prince, receive training in setting up a profit-making activity, managing a loan and running their micro-enterprise.

In 2012, more than 500 women were granted micro-credit loans through this program.

Despite the difficulties that Haiti has encountered since the earthquake of January 2010, this program is an ongoing success, achieving a reimbursement rate of nearly 85% in 2012 and the reintegration of a number of women. This social initiative has a significant impact on living conditions and continues to be necessary for a population that is still facing great difficulties: more than 2,800 people have benefited from this program since its launch in 2005.

SUPPORTING ASSOCIATIONS AND HUMANITARIAN INITIATIVES IN 2012

- Support for the French AAIP association (firefighters’ international aid actions)
- A new children’s center for the Communauté de l’Incarnation
- Extending the Our Lady of the Miraculous Medal children’s home in Cap-Haïtien

During 2012, Fondation Mérieux continued works to increase the capacity and improve living conditions in this institution, which is managed by Sister Godelive. 500 children attend the renovated school and the orphanage is home to nearly 100. In 2012, five new “Kayïti” houses were built to accommodate the members of the religious community, freeing up additional premises for the children.
Created through close collaboration between the Fondation and the ministries of health in Burkina Faso, Mali and Senegal, the REAOLAB project aims to improve the health of populations by strengthening the clinical laboratory system and harmonizing diagnostic practices in the three countries.

Fondation Mérieux is leading this project, which began in 2009. Its first phase is scheduled to come to an end in 2013. REAOLAB is co-financed by Agence Française de Développement (AFD), The International Cooperation of Monaco, The French Ministry of Foreign Affairs, WHO, and the West African Health Organisation (OOAS) also collaborate.

REAOLAB’s activities are based on three priority areas:
- continuing training of laboratory staff,
- quality management for the tests carried out in the laboratories,
- epidemiological surveillance.
ACHIEVEMENTS SINCE 2009

- 53 instructors trained
- 111 training sessions given to 2,500 participants in the three countries
- A distance learning platform developed (http://www.globe-network.org/)
- 12 decentralized training and quality control centers renovated and equipped
- A Laboratory Information Management software system developed and 21 instructors trained
- 15 laboratories in each country provided with equipment to facilitate electronic data transmission for communicable disease surveillance

EXTENDING THE PROJECT: RESAOLAB+

At the request of Benin, Guinea-Conakry, Niger and Togo, the RESAOLAB project will be extended.

The aim of the RESAOLAB+ project is to develop the current network to include these four new countries, thus extending the scope of the project to seven West African countries.

RESAOLAB+ should be launched during 2013.

FIGHTING NEGLECTED TROPICAL DISEASES IN AFRICA

Since 2008, Fondation Mérieux has taken part in the European Foundation Initiative for African Research into Neglected Tropical Diseases. To date, this initiative, which brings together five European foundations (Cariplo, Gulbenkian, Nuffield, Volkswagen and Mérieux) has made it possible to train 25 young African researchers, thanks to postdoctoral grants. These foundations also organize additional training for the researchers, as well as conferences fostering active South-South and North-South networks. Thus far, the resulting research projects have given rise to 15 publications in internationally recognized journals.

BURKINA FASO

A NEW CENTER FOR TRAINING AND QUALITY

As part of the RESAOLAB project, Fondation Mérieux backed the construction of a Continuing Training Center and External Quality Control Unit within the General Directorate of Pharmacy, Drugs and Laboratories at the Burkina Faso Ministry of Health.

The new center will make it possible to provide training for laboratory technicians and improve the quality of medical ana-
SIXTH BAMS CLASS

Managed by the Charles Mérieux Infectiology Center in Bamako, the Bachelor of Science in Biological and Applied Medical Sciences (BAMS) has been offered since 2007, in partnership with the Faculty of Medicine and Pharmacy of Bamako and the ESTBB (School of Biology, Biochemistry and Biotechnology at the Catholic University of Lyon). This 9-month course results in a formal qualification and is intended to reinforce senior laboratory technicians’ biomedical analysis skills and compliance with laboratory quality assurance regulations.

In October 2012, Mali’s sixth class, comprising 27 new participants, began its training.

ETHIOPIA

IMPROVING TUBERCULOSIS DIAGNOSIS

A program to fight tuberculosis has been implemented by the Inter Aide association with the support of Fondation Mérieux and the European Union. It has three objectives: raising awareness of infection, facilitating access to high-quality diagnostics and mobilizing healthcare professionals in the fight against this disease.

Several laboratories have been equipped in the Wolayta and Dawro regions in southern Ethiopia, with the primary objective of substantially increasing the number of cases detected. In parallel, training was provided for health center staff.

SUPPORTING SAMUSOCIAL

Since 2005, Fondation Mérieux has been working with the Samusocial association in Mali to provide care for street children. Funding and logistical support are provided for the medical testing of young people monitored on a daily basis.

Samusocial provides:
- treatment in the streets during nighttime patrols,
- medical monitoring of children in order to provide appropriate treatment and refer them to specialized facilities,
- health education initiatives to raise awareness of issues such as daily hygiene, prevention and vaccination.

The Fondation also supports Samusocial in Senegal.

IMPROVING TUBERCULOSIS DIAGNOSIS

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REINTEGRATING HIV+ WOMEN

This program, managed in partnership with AFAS (women’s association to support AIDS widows and orphans), aims to achieve socio-economic reintegration for women living with HIV in Mali, by developing their ability to manage a profitable commercial activity.

Launched in 2010, the project entails the bulk purchase of bales of fabric in Burkina Faso, for subsequent distribution in batches to women living with HIV. The women sell the fabric at markets, reimburse the project for the batch, and then keep the profits. In 2012, this initiative enabled 50 women to increase their revenue to support themselves and their families.

SIXTH BAMS CLASS

Managed by the Charles Mérieux Infectiology Center in Bamako, the Bachelor of Science in Biological and Applied Medical Sciences (BAMS) has been offered since 2007, in partnership with the Faculty of Medicine and Pharmacy of Bamako and the ESTBB (School of Biology, Biochemistry and Biotechnology at the Catholic University of Lyon). This 9-month course results in a formal qualification and is intended to reinforce senior laboratory technicians’ biomedical analysis skills and compliance with laboratory quality assurance regulations.

In October 2012, Mali’s sixth class, comprising 27 new participants, began its training.
SeneGAL

“MOBILE HEALTH”

Effectively sharing information between national structures and regional laboratories is a major challenge for infectious disease surveillance. A “mobile health” experiment in Dakar since 2011 aims to improve epidemiological surveillance and continuing training for laboratory professionals, through the use of voice technology via mobile phones.

The VOICES (VOIce-based Community-cEntric mobile Services for social development) project is funded by the European Commission. It brings together Senegal’s National Network of Laboratories, the Multinational Higher School of Telecommunications (ESMT) in Dakar, the telecommunications group, Orange, the Dutch organization for Applied Scientific research (TNO), the South African Council for Scientific and Industrial Research, the Worldwide Web Foundation, and Fondation Mérieux.

The VOICES project in Senegal enables information on infectious epidemics to be shared more quickly and reliably, via three mechanisms:

- the collection of epidemiological information from regional laboratories,
- continuing training for laboratory staff,
- a web-based interface to display and monitor epidemiological data and for educational applications.

This preliminary trial in the field, during which daily reports are generated for three diseases (cholera, shigellosis and meningitis) has shown very encouraging initial results.

The VOICES project in Senegal is now ready to be deployed in other regions.

---

“VOICES AND

The partnership between the International Cooperation of Monaco and Fondation Mérieux goes back a long way as we have been working together now for five years. We collaborated for the first time on the RESAOLAB project and, more specifically, the International Cooperation of Monaco is involved in setting up laboratories at the community level in Mali, so that local populations have direct access to healthcare services. Through this partnership, we will create nine laboratories in rural areas.

We value our collaboration with Fondation Mérieux very highly. (…)

We appreciate this approach based on strengthening human capital (through the GABRIEL network) and fostering partnerships (through the creation of networks like RESAOLAB), bringing together public institutions, national centers and financial backers. It is a real opportunity."

* As of April 2013, Secretary General of the World Association of Children’s Friends (AMADE)
Fondation Mérieux has reaffirmed its commitment to enhancing clinical biology capabilities in Madagascar, through Charles Mérieux Infectiology Center initiatives launched in 2011 and the continuation of several projects run by the Rodolphe Mérieux Laboratory.
TRAINING PHARMACY STUDENTS

Since 2006, Fondation Mérieux has worked to improve the training received by pharmacy students at the University of Antananarivo, in partnership with the Pierre Fabre Foundation, the French International Cooperation department and the schools of pharmacy at the universities of Grenoble and Toulouse.

Rooms for teaching and practical work have been renovated, following the introduction of hospital pharmacy courses and practical training programs.

The Faculty of Pharmacy’s second class of students graduated in 2012.

MARKERS TO DIFFERENTIATE PNEUMONIA AND MALARIA IN FEVERISH CHILDREN

The aim of this study, which was launched in 2011, is to identify host markers of diagnostic significance that could be used to differentiate between malaria and pneumonia in children aged 2 to 59 months with a fever over 38°C.

The project is funded by the National Institutes of Health (NIH) and Institut Mérieux. It is run in partnership with the Ampasimanjeva Medical Foundation on the east coast of Madagascar, near Manakara. The markers will be identified by the Canadian biotechnology company, Caprion, based on samples taken from Malagasy patients.

A rapid diagnostic test for malaria is carried out in order to distinguish lower respiratory tract infections from malaria.

The initial results obtained confirm that malaria is endemic in this region, as half of the fevers observed in young children are attributable to the disease. These results, which need to be confirmed, enable the speed at which pathogens spread through the region to be tracked.

SOUTH-SOUTH COOPERATION TO TRAIN TECHNICIANS

At the request of the Madagascan Ministry of Health, Fondation Mérieux organized a training course for laboratory technicians. The training was part of an initiative to create an infectious disease surveillance network comprising seven regional hospital laboratories. The course was implemented in collaboration with the Ministry of Health and delivered by Malian instructors, who are familiar with constraints similar to those in Madagascar.
In the spring of 2012, a Memorandum of Understanding (MOU) was signed for the construction of the future Rodolphe Mérieux Laboratory at the Bangladesh Institute of Tropical and Infectious Diseases (BITID) in Chittagong. Fondation Mérieux is responsible for building and equipping the laboratory and training the staff.

This laboratory of excellence, which should be operational by the end of 2013, will be dedicated to training biologists and applied research on the specific pathologies prevalent in Bangladesh, where the threat of infection is particularly high.
“Diarrheal diseases are extremely widespread, but not widely discussed. They continue to cause deaths around the world, in children and adults alike. I would like to mention one particularly severe example, namely cholera. Many people have forgotten the devastating effects of this disease. It is a disease that we have neglected and whose impact is immeasurable. Thanks to various efforts throughout the world, it is now possible to treat and prevent cholera. Approximately 3 million people are infected with cholera in over 20 countries, including Bangladesh and Haiti, and about 150,000 people, children and adults alike, die from the disease every year. However, thanks to the efforts of foundations such as Fondation Mérieux, people are beginning to talk about the disease and to make use of the vaccines available. (…)

Bangladesh is a poor country, but its people are receptive. When you come to their aid with diagnostic tools, treatments and vaccines, they place their belief in the support being offered and embrace it. We can make this happen around the world. (…)

If we work together on global health, we can achieve great things.”

An applied research program is currently being run by Fondation Mérieux to develop a sensitive molecular diagnostic test to detect the salmonella strains responsible for typhoid fever.

WHO currently estimates that between 17 and 22 million people suffer from typhoid fever each year, with up to 600,000 fatalities. The disease is transmitted in contaminated water or food. Current diagnostic techniques lack sensitivity and are not well-suited to the conditions encountered in the field.

The program is funded by the Bill & Melinda Gates Foundation and involves five partners: the Pasteur Institute, the West Scotland Specialist Virology Center, Fast-track Diagnostics, Kemri-CDC, and the Child Health Foundation in Bangladesh.
CAMBODIA

RENOVATING THE SVAY RIEG HOSPITAL LABORATORY

Fondation Mérieux funded the renovation of a 175 m² medical biology laboratory and the installation of a microbiology unit at the hospital in the city of Svay Rieng, located in the province of the same name. Also involved in the project were the Cambodian Ministry of Health, the World Health Organization for equipment, and the Diagnostic Microbiology Development Program (DMDP), an American NGO specializing in practical microbiology training.

This successful renovation has led to the implementation of a high-quality laboratory network in Cambodia, with a view to enhancing the effectiveness and quality of monitoring of infectious diseases.

TRAINING AND RESEARCH IN PHNOM PENH

In 2012, training and research programs at the Rodolphe Mérieux Laboratory were focused on three major projects, each with an international partner:

- Clinical pharmacology, with a study on the metabolism of therapeutic molecules among Cambodian populations,
- Descriptive epidemiology, focusing on children with severe respiratory infections and acute diarrhea requiring hospitalization,
- Interaction between pathogens and the environment, monitoring the presence of human pathogens in the environment (primarily water and rodents).
In developing countries, diarrhea-related diseases remain the second most frequent cause of death in children under five. The infectious agents that cause diarrhea may be bacterial (for example, Salmonella spp, Vibrio cholera, Escherichia coli, Enterobacteria, Shigella spp), viral (hepatitis A, norovirus, rotavirus and enterovirus) or parasitic (Giardia, Taenia saginata).

A research program was launched in March 2010 by the Rodolphe Mérieux Laboratory in Cambodia, jointly funded by Singapore’s national laboratories (DSO) and Fondation Mérieux. The primary objective is to monitor the pathogens responsible for acute diarrhea in the children admitted to the Takeo hospital, by developing a well-adapted molecular diagnostic system and making optimal use of the tools available at the Rodolphe Mérieux Laboratory.

Until April 2012, 400 samples were taken, included in the protocol and tested using kits developed by Fast-track Diagnostics to identify the bacteria and viruses. A PCR test developed by DSO was also used to identify Vibrio cholera. Parasites were identified by microscopy.

This research will be continued in 2013 and the results will be published in the scientific literature.
Since 2009, Fondation Mérieux has worked with the Chinese Ministry of Health and the National Tuberculosis Reference Laboratory at the Center for Disease Control (CDC) to increase diagnostic capabilities in the Zhe Jiang and Heilong Jiang provinces for patients whose tuberculosis treatment is not proving effective.

The first phase of this partnership was completed in 2012 and demonstrated the importance of decentralizing resources to detect tuberculosis and resistance to treatment in China:

- **Equipment** provided for the National Tuberculosis Reference Laboratory in Beijing; two tuberculosis reference centers for the Chinese CDC in Harbin (Heilong Jiang province) and Hangzhou (Zhe Jiang province); eight tuberculosis treatment centers in the cantons of these two provinces;
- **Training** for 132 laboratory professionals at national, provincial and local levels;
- **Assessment** of new tools to diagnose pulmonary tuberculosis and detect resistance to antituberculosis drugs, among 1,400 people thought to be infected.

A new agreement was signed in 2012 with the Chinese Academy of Medical Sciences (CAMS) in Beijing, extending the activities of the Christophe Mérieux Laboratory for a further five years. This unit is dedicated to assessing and developing new diagnostic techniques and biomarkers, as well as identifying and characterizing new pathogens.

As part of measures to monitor respiratory infections in Beijing and the surrounding area, the Christophe Mérieux Laboratory continued, throughout 2012, to document the role and variety of pathogens responsible for respiratory infections observed in three of the city’s main hospitals.
MONITORING HIV PATIENTS’ TREATMENT

In 2009, the Christophe Mérieux Infectiology Center of Laos (CICML) introduced viral load measurement to monitor treatment for patients living with HIV, in order to improve their care.

By the end of 2012, more than 2,300 patients, of whom 48% were women, had had their viral load measured at the Center.

In addition, in May 2010, the Christophe Mérieux Infectiology Center of Laos implemented an HBV and HCV viral load quantification technique to assess the efficacy of treatments administered.

INFECTION DUE TO HUMAN IMMUNODEFICIENCY VIRUS

This epidemiological study, which was carried out between February 2010 and May 2012, was launched following the advent of the H1N1 flu virus in March 2009. The aim of the study was to quantify the incidence of flu infection and to identify the sociological and epidemiological factors determining the risk of infection.

This research was coordinated by the CICML, the EHESP (French School of Public Health) and Fondation Mérieux. The project involved a prospective cohort of more than 800 households, i.e. approximately 4,000 people in a district of Vientiane, for serological and virological monitoring. The determining factors and age distribution for sero-conversion in a vaccine-naïve population were shown to be similar to those found in developed countries. The study, which took place between February 2010 and May 2012, may result in a second scientific publication in 2013.

Following on from this protocol, an additional study (Lalris) was launched with a view to determining the pathogens involved in the symptomatic cases identified during recruitment for CoPanFlu, with no relation to the H1N1 virus. The data already available in this context shows a strong Streptococcus pneumoniae prevalence. Also thanks to this project, the Fast-track Diagnostics test has been introduced at the CICML for respiratory diseases, with the support of the GABRIEL network.

“INFECTIOLOGY AND LABORATORY DAYS”

In October 2012, the second edition of the “Infectiology and Laboratory Days” took place at Thakhek Hospital, organized in partnership with the Rhône-Alpes regional council, Hospices Civils de Lyon, and Claude Bernard University Lyon 1.

Some 50 participants convened at this event, focused on issues relating to infectiology training for clinicians, the role and use of medical biology laboratories, and the importance of laboratory networking.

SUPPORTING ASSOCIATIONS

In 2012, Fondation Mérieux provided support for LaOPHA (Lao Positive Health Association), which offers assistance to people living with HIV/AIDS, organizes preventive initiatives, and provides treatment and care for communities in the nine provinces of Laos.

EPIDEMIOLOGY OF MULTI-RESISTANT TUBERCULOSIS STRAINS

Since opening in 2009, the Christophe Mérieux Infectiology Center of Vientiane in Laos (a national organization under the Ministry of Health) has carried out various research projects on the diagnosis of tuberculosis and detection of resistance. The Center’s role is to analyze resistance to antituberculosis drugs using molecular tests to identify strains other than Mycobacterium tuberculosis, as well as resistance to first-line antituberculosis drugs. The results of this study, which was completed in early 2012, have been published.

In 2013, Fondation Mérieux will launch a new study on the molecular epidemiology of the strains found in Laos, based on MIRU*-typing, thanks to a transfer of technology from the Foundation’s Emerging Pathogens Laboratory in France. This study will be conducted using the cohort compiled from the 2012 national prevalence study, as part of the agreement between the National Tuberculosis Control Program Center and the Christophe Mérieux Infectiology Center of Laos.

* Mycobacterial Interspersed Repetitive Units
NEW MOLECULAR BIOLOGY PLATFORM IN MANDALAY

In 2011, Fondation Mérieux began renovation work at the Mandalay Public Health Laboratory (PHL) in Myanmar. The new molecular biology technical platform has been operational since the spring of 2012.

Following the renovation of the molecular platform, a technology transfer and multiple-stage training course were carried out in preparation for the launch of viral load monitoring at the Public Health Laboratory in Mandalay. Staff received training at the Christophe Mérieux Infectiology Center of Laos, followed by on-site training and external quality control prior to deploying testing on a large scale.

This test is now available for the 15,000 patients monitored by the NGO, The Union Against Tuberculosis, with support from the Global Fund.

Given the increasing number of patients receiving treatment, the challenge is to limit the number of cases where the virus “escapes” treatment and thus limit the number of patients under second-line treatments.

MONITORING ANTIRETROVIRAL TREATMENT

NEW NATIONAL REFERENCE LABORATORY

Construction of the national reference laboratory for public health, located in Dushanbe, was completed in the fall of 2012, in partnership with the United Nations Development Program and the Tajik Ministry of Health. The new laboratory, with a total surface area of 425 m², comprises two BSL2 and BSL3 units. This new structure should bring about improvements in the diagnosis of tuberculosis, which is particularly rife in this country, due to a number of multi-resistant strains, as well as other pathogens such as hepatitis, hemorrhagic fevers and respiratory infections.

Financed by the Global Fund to Fight AIDS, Tuberculosis and Malaria, the laboratory is the property of the Ministry of Health. Its inauguration is scheduled for the summer of 2013.
LEBANON

EQUIPPING THE RODOLPHE MÉRIEUX LABORATORY IN BEIRUT

The Rodolphe Mérieux Laboratory, which was inaugurated in 2011, is located within the technology and health center at Saint-Joseph University in Beirut. The installation of the laboratory and enhancement of the technical platform continued into 2012.

SUPPORTING ASSOCIATIONS

Fondation Mérieux supported the P’tits Soleils association, which helps underprivileged children living in Lebanon, regardless of their nationality or ethnic origins. P’tits Soleils covers the costs of medical care (hospitalization, paraclinical examinations and specialized medical consultations) and also provides medications, prostheses and vaccines.

“...we have a brand new Rodolphe Mérieux Laboratory, built at the heart of the technology and health center at the University. This laboratory is one-of-a-kind, and to see it become part of the GABRIEL network represents a great opportunity for the entire Middle East. We are currently working on all the infections studied by the network, including respiratory infections, emerging viruses, tuberculosis and AIDS, and on most of the diseases that afflict today’s society.”

Prof. DOLLA KARAM SARKIS
Dean of the Faculty of Pharmacy and Director of the EPL, Saint-Joseph University, Beirut
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Alexandre MÉRIEUX
Sophie MÉRIEUX

Qualified persons
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Didier CHERPITEL
Prof. François GROS
Prof. David HEYMANN
Dominique PELLA
Prof. Dominique PEYRAMOND
Dr. Robert SEBBAG

Government representative
The Prefect of the Rhône-Alpes Region

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Dr. Christophe LONGUET
Medical Director
Dr. François-Xavier BABIN
International Development Director

* Position held by Prof. Christian TREPO ad interim
February-September 2013, then permanently by Prof. Hubert ENDTZ

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Agence nationale de la recherche (ANR)
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Biokit
bioMérieux
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Centers for Disease Control and Prevention (CDC)
CDC Foundation
Crucell
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European Diagnostic Manufacturers Association (EDMA)
European Society for Paediatrics Infectious Diseases (ESPID)
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Genostar
GlaxoSmithKline Biologicals
Global Fund to Fight AIDS, Tuberculosis and Malaria
IMACCESS
Institut Mérieux
Institut Pasteur
Institut de recherche biomédicale des armées (IRBA)
Islamic Development Bank (IDB)
Johns Hopkins Bloomberg School of Public Health
London School of Hygiene and Tropical Medicine (LSHTM)
Merck
Ministère des Affaires étrangères / France Expertise Internationale (FEI)
National Foundation for Infectious Diseases (NFID)
National Institute of Allergy and Infectious Diseases (NIAID) / National Institutes of Health (NIH)
National Vaccine Program Office (NVPO)
Novartis Vaccines
Nuffield Foundation
Pfizer
Qiagen
Région Rhône-Alpes
Sanofi Pasteur
Sanofi Pasteur MSD
Serum Institute of India
Stavros Niarchos Foundation
United Nations Development Programme (UNDP)
Université de Genève
VolkswagenStiftung
Wellcome Trust
World Health Organization (WHO)
## BALANCE SHEET

### ASSETS

<table>
<thead>
<tr>
<th>NET</th>
<th>NET</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEC. 31, 2012</td>
<td>DEC. 31, 2011</td>
</tr>
</tbody>
</table>

#### FIXED ASSETS

- Property, plant and equipment: 3,182 (2012) vs. 3,693 (2011)
- Investments and other financial assets: 17,521 (2012) vs. 17,507 (2011)

**Total:** 20,723 (2012) vs. 21,213 (2011)

#### CURRENT ASSETS

<table>
<thead>
<tr>
<th>NET</th>
<th>NET</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEC. 31, 2012</td>
<td>DEC. 31, 2011</td>
</tr>
</tbody>
</table>

- Inventories: 6 (2012) vs. 7 (2011)
- Payments on account: 103 (2012) vs. 104 (2011)
- Accounts receivable: 1,117 (2012) vs. 1,005 (2011)
- Other receivables: 3,000 (2012) vs. 2,662 (2011)
- Cash and cash equivalents: 7,656 (2012) vs. 3,073 (2011)
- Prepaid expenses: 658 (2012) vs. 415 (2011)
- Unrealized exchange losses: 0 (2012) vs. 2 (2011)

**Total:** 74,378 (2012) vs. 76,021 (2011)

**TOTAL ASSETS:** 95,100 (2012) vs. 97,234 (2011)

### LIABILITIES AND FUND BALANCE

<table>
<thead>
<tr>
<th>NET</th>
<th>NET</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEC. 31, 2012</td>
<td>DEC. 31, 2011</td>
</tr>
</tbody>
</table>

#### FUND BALANCE

- Dotation: 64,916 (2012) vs. 64,916 (2011)
- Reserves: 884 (2012) vs. 884 (2011)
- Retained earnings: 24,433 (2012) vs. 28,099 (2011)

**Total:** 89,410 (2012) vs. 90,234 (2011)

- Funds reserved for future engagements: 1,396 (2012) vs. 1,403 (2011)

### LIABILITIES

<table>
<thead>
<tr>
<th>NET</th>
<th>NET</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEC. 31, 2012</td>
<td>DEC. 31, 2011</td>
</tr>
</tbody>
</table>

- Loans: 84 (2012) vs. 72 (2011)
- Accounts payable: 1,284 (2012) vs. 1,819 (2011)
- Investment payable: 0 (2012) vs. 0 (2011)
- Other payable: 1,479 (2012) vs. 955 (2011)
- Deferred income: 1,204 (2012) vs. 2,470 (2011)

**Total:** 4,053 (2012) vs. 5,355 (2011)

**TOTAL LIABILITIES AND FUND BALANCE:** 95,100 (2012) vs. 97,234 (2011)
## INCOME STATEMENT

<table>
<thead>
<tr>
<th>(K€)</th>
<th>ACTUAL 2012</th>
<th>ACTUAL 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INCOME</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services revenue</td>
<td>280</td>
<td>277</td>
</tr>
<tr>
<td>Grants</td>
<td>118</td>
<td>672</td>
</tr>
<tr>
<td>Reverse on operating allowances</td>
<td>7,522</td>
<td>7,210</td>
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<tr>
<td>Expenses refund</td>
<td>436</td>
<td>238</td>
</tr>
<tr>
<td>Other operating income</td>
<td>27</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total income</strong></td>
<td><strong>8,383</strong></td>
<td><strong>8,414</strong></td>
</tr>
<tr>
<td><strong>EXPENSES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External purchases and expenses</td>
<td>5,680</td>
<td>5,223</td>
</tr>
<tr>
<td>Taxes and duties</td>
<td>874</td>
<td>674</td>
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<tr>
<td>Salaries</td>
<td>2,112</td>
<td>1,909</td>
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<tr>
<td>Social contributions</td>
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<td>892</td>
</tr>
<tr>
<td>Depreciations</td>
<td>634</td>
<td>626</td>
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<tr>
<td>Donations and subsidies received</td>
<td>4,666</td>
<td>3,921</td>
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<tr>
<td>Grants awarded</td>
<td>19</td>
<td>35</td>
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<tr>
<td>Net book value of sold assets</td>
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<td>-</td>
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<tr>
<td>Other operating expenses</td>
<td>7</td>
<td>-</td>
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<tr>
<td><strong>Total expenses</strong></td>
<td><strong>14,973</strong></td>
<td><strong>13,280</strong></td>
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<td><strong>CURRENT INCOME</strong></td>
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<tr>
<td><strong>FINANCIAL INCOME</strong></td>
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<tr>
<td>Dividends</td>
<td>1,087</td>
<td>814</td>
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<tr>
<td>Other financial income</td>
<td>1,342</td>
<td>25</td>
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<tr>
<td>Reverse on financial allowances</td>
<td>399</td>
<td>63</td>
</tr>
<tr>
<td>Net income from marketable securities</td>
<td>4,281</td>
<td>1,554</td>
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<tr>
<td><strong>Total financial income</strong></td>
<td><strong>7,119</strong></td>
<td><strong>2,456</strong></td>
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<tr>
<td><strong>FINANCIAL EXPENSES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial allowances</td>
<td>299</td>
<td>913</td>
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<tr>
<td>Other financial expenses</td>
<td>1,071</td>
<td>23</td>
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<tr>
<td><strong>Total of financial expenses</strong></td>
<td><strong>1,370</strong></td>
<td><strong>935</strong></td>
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<tr>
<td><strong>FINANCIAL RESULT</strong></td>
<td><strong>5,749</strong></td>
<td><strong>1,520</strong></td>
</tr>
<tr>
<td><strong>EXCEPTIONAL INCOME</strong></td>
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</tr>
<tr>
<td>Exceptional income</td>
<td>9</td>
<td>2</td>
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<tr>
<td>Exceptional reverse on allowances</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total exceptional income</strong></td>
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<td><strong>2</strong></td>
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<tr>
<td><strong>EXCEPTIONAL COSTS</strong></td>
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<tr>
<td>Exceptional expenses</td>
<td>-</td>
<td>57</td>
</tr>
<tr>
<td>Exceptional allowances for contingencies</td>
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<td>-</td>
</tr>
<tr>
<td><strong>Total exceptional expenses</strong></td>
<td>-</td>
<td><strong>57</strong></td>
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<tr>
<td><strong>EXCEPTIONAL RESULT</strong></td>
<td>-</td>
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<tr>
<td>Income tax</td>
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<td>-2</td>
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<td><strong>TOTAL INCOME</strong></td>
<td><strong>15,512</strong></td>
<td><strong>10,871</strong></td>
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<tr>
<td><strong>TOTAL EXPENSES</strong></td>
<td><strong>16,342</strong></td>
<td><strong>14,271</strong></td>
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<tr>
<td><strong>INTERMEDIATE BALANCE</strong></td>
<td>-831</td>
<td>-3,400</td>
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<tr>
<td>Prior funds carried forward</td>
<td>1,403</td>
<td>1,137</td>
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<tr>
<td>Funds reserved for future engagements</td>
<td>1,396</td>
<td>1,403</td>
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<tr>
<td><strong>NET INCOME / LOSS FOR THE PERIOD</strong></td>
<td><strong>-824</strong></td>
<td><strong>-3,665</strong></td>
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</tbody>
</table>
# USE OF FUNDS STATEMENT

## EXPENSES (USES) (€) — ACTUAL 2012

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>MISSIONS</td>
<td>11,102,330</td>
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<tr>
<td>Clinical biology laboratories</td>
<td>1,048,387</td>
</tr>
<tr>
<td>Collaborative research programmes</td>
<td>3,799,348</td>
</tr>
<tr>
<td>Training and knowledge sharing</td>
<td>4,331,443</td>
</tr>
<tr>
<td>Support for local initiatives</td>
<td>866,721</td>
</tr>
<tr>
<td>Support for local structures</td>
<td>229,079</td>
</tr>
<tr>
<td>International offices</td>
<td>810,755</td>
</tr>
<tr>
<td>Specific projects and exploratory missions</td>
<td>16,596</td>
</tr>
<tr>
<td><strong>FUND-RAISING EXPENSES</strong></td>
<td>1,357,577</td>
</tr>
<tr>
<td><strong>OPERATING EXPENSES</strong></td>
<td>1,923,863</td>
</tr>
</tbody>
</table>

**Total Expenses for the Period**: 14,383,770 €

## INCOME (FUNDS) (€) — ACTUAL 2012

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>DONATIONS AND LEGACIES</td>
<td>128,657</td>
</tr>
<tr>
<td>Donations</td>
<td>117,772</td>
</tr>
<tr>
<td>Legacies</td>
<td>10,885</td>
</tr>
<tr>
<td><strong>OTHER PRIVATE FUNDS</strong></td>
<td>6,546,339</td>
</tr>
<tr>
<td>Sponsorship/ Patronage</td>
<td>2,911,800</td>
</tr>
<tr>
<td>Grants from Fondation Christophe et Rodolphe Mérieux</td>
<td>1,325,000</td>
</tr>
<tr>
<td>Other grants</td>
<td>2,309,539</td>
</tr>
<tr>
<td><strong>GRANTS AND OTHER PUBLIC FUNDING</strong></td>
<td>984,903</td>
</tr>
<tr>
<td><strong>OTHER INCOME</strong></td>
<td>6,426,874</td>
</tr>
<tr>
<td>Services revenues</td>
<td>280,389</td>
</tr>
<tr>
<td>Refund of expenses</td>
<td>435,912</td>
</tr>
<tr>
<td>Other financial income</td>
<td>4,599,972</td>
</tr>
<tr>
<td>Dividends</td>
<td>1,110,601</td>
</tr>
</tbody>
</table>

**Total Income for the Period**: 14,086,773 €

## Key Figures

- **Evaluation of in-kind patronage**: 11,107 €
- **Reverse on allowances**: 398,982 €
- **Prior funds carried forward**: 1,402,815 €
- **Accounting results (deficit)**: 823,684 €
- **Grand total**: 16,712,254 €
To the Directors,

In accordance with our appointment as statutory auditors by your Committee, we hereby report to you for the year ended December 31, 2012 on:

- the audit of the accompanying financial statements of FONDATION MERIEUX;
- the justification of our assessment;
- the specific verifications and disclosures required by law.

These financial statements have been approved by the Committee. Our role is to express an opinion on these financial statements, based on our audit.

I. OPINION ON THE FINANCIAL STATEMENTS

We conducted our audit in accordance with professional practice standards applicable in France. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, testing and evaluating evidence in the opinion of our work. The audit also includes assessing the accounting principles used and significant estimates made, as well as evaluating the overall financial statement presentation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

II. JUSTIFICATION OF OUR ASSESSMENTS

In accordance with the requirements of article L.323-9 of the French Commercial Code (Code de commerce) relating to the justification of our assessments, we hereby inform you that our assessments covered the appropriateness of the accounting policies adopted.

These assessments were performed as part of our audit approach for the financial statements taken as a whole and contributed to the expression of our opinion in the first part of this report.

III. SPECIFIC VERIFICATIONS AND DISCLOSURES

We have also perused the specific verifications provided by law, in accordance with the professional practice standards applicable in France.

We have no reason to make it appear that the fair presentation and consistency with the financial statements of the information given in the financial report and in the documents addressed to the Directors with respect to the financial position and the financial statements.

Villeneuve, June 7, 2013

The Statutory Auditors

DELOITE & ASSOCIÉS

French original signed by Nathalie LORENZO CASQUET

As statutory auditors of FONDATION MERIEUX, we hereby confirm that the above translation of the statutory auditors' report on the financial statements of FONDATION MERIEUX for the year ended December 31, 2012 appropriately reflects the content and opinion of our original report in French language.

For identification purposes, we also confirm that the financial statements of FONDATION MERIEUX for the year ended December 31, 2012 show:

- revenues of €2,035,588,842
- operating income of €0,681,779,741
- net income of €0,411,349,864
- shareholders' equity of €0,805,820,918
- total assets of €7,259,849,870
**BREAKDOWN OF 2012 INCOME**
(excluding provisions and non-recurring items)

- **ENDOWMENT INCOME & INVESTMENT**: 35%
- **SANOFI PASTEUR SPONSORSHIP AND PARTNERSHIP**: 16%
- **PRIVATE PARTNERSHIPS**: 15%
- **FONDATION CHRISTOPHE ET RODOLPHE MÉRIEUX**: 10%
- **PUBLIC PARTNERSHIPS**: 9%
- **REAL ESTATE INCOME**: 8%
- **OTHER SPONSORSHIPS**: 4%
- **OTHER INCOME**: 2%
- **DONATIONS AND LEGACIES**: 1%

**BREAKDOWN OF 2012 EXPENSES**
(excluding provisions and exceptional expenses)

- **MISSIONS**: 78%
- **ADMINISTRATION**: 12%
- **FUNDRAISINGEXPENSES**: 10%

**BREAKDOWN OF EXPENSES BY ACTIVITY**
(excluding provisions and exceptional expenses)

- **TRAINING AND KNOWLEDGE-SHARING**: 39%
- **COLLABORATIVE RESEARCH PROGRAMS**: 34%
- **CLINICAL BIOLOGY LABORATORIES**: 10%
- **SUPPORT FOR LOCAL INITIATIVES**: 8%
- **INTERNATIONAL EXPERTS**: 7%
- **SUPPORT FOR LOCAL STRUCTURES**: 2%
**GEOGRAPHICAL SEGMENTATION OF ACTIVITIES**

EUROPE (excluding scientific and medical coordination, and international development) 40%
AFRICA 22%
ASIA 21%
THE CARIBBEAN 8%
INDIAN OCEAN 6%
SOUTH AMERICA 3%

**GEOGRAPHICAL SEGMENTATION OF EMPLOYEES**

120 employees worldwide

EUROPE 44%
AFRICA 24%
ASIA 18%
INDIAN OCEAN 8%
THE CARIBBEAN 6%

**EVOLUTIONS IN EXPENSES BY FIELD OF ACTIVITY**

*(in K€)*

<table>
<thead>
<tr>
<th>Field of Activity</th>
<th>2011</th>
<th>2012</th>
<th>2013 ESTIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Biology Laboratories</td>
<td>842</td>
<td>1,043</td>
<td>1,253</td>
</tr>
<tr>
<td>Collaborative Research Programs</td>
<td>2,895</td>
<td>3,703</td>
<td>3,844</td>
</tr>
<tr>
<td>Training and Knowledge-Sharing</td>
<td>4,241</td>
<td>4,301</td>
<td>3,975</td>
</tr>
<tr>
<td>Support for Local Initiatives</td>
<td>1,112</td>
<td>866</td>
<td>706</td>
</tr>
</tbody>
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