



# 2017 ANNUAL REPORT



PIONEERING DIAGNOSTICS



# CONTENTS

<b>EDITO</b>	<b>2</b>
<b>2017 AT A GLANCE</b>	<b>4</b>
<b>CLINICAL APPLICATIONS</b>	<b>6</b>
bioMérieux, pioneer in the molecular syndromic diagnosis of infectious diseases	8
Fighting antimicrobial resistance	12
Sepsis, a major public health challenge	16
<b>INDUSTRIAL APPLICATIONS</b>	<b>18</b>
The importance of industrial microbiological control	20
<b>AN INTERNATIONAL SUCCESS</b>	<b>22</b>
<b>CORPORATE RESPONSIBILITY</b>	<b>24</b>
Committed to people	28
Committed to our workforce	36
Committed to respecting the environment	44
Committed to ethics in business	48
<b>CORPORATE GOVERNANCE</b>	<b>52</b>
<b>KEY FIGURES</b>	<b>54</b>
<b>FINANCIAL TABLES</b>	<b>56</b>
<b>THE BIOMÉRIEUX SHARE</b>	<b>59</b>
<b>GLOSSARY</b>	<b>60</b>

A world leader in the field of *in vitro* diagnostics for over 50 years, bioMérieux is present in more than 150 countries through 43 subsidiaries and a large network of distributors. In 2017, revenues reached €2.3 billion, with over 90% of international sales.

bioMérieux provides diagnostic solutions (systems, reagents, software) which determine the source of disease and contamination to improve patient health and ensure consumer safety. Its products are mainly used for diagnosing infectious diseases. They are also used for detecting microorganisms in agri-food, pharmaceutical and cosmetic products.



**EDITO**

**ALEXANDRE MÉRIEUX • CHAIRMAN AND CEO**

## “AN EXCEPTIONAL YEAR”

2017 was an exceptional year for bioMérieux, with sales growth of 10.2% at constant exchange rates and scope of consolidation, and an increase in profitability reaching 14.6%.

These remarkable results, outpacing the market, were driven in a very balanced way by all our regions and all our product lines, in both clinical and industrial applications.

One of the highlights among the year's successes, has been the sustained growth of molecular syndromic diagnostics with the BIOFIRE® range: by identifying a large number of pathogens in a single test, this approach provides a rapid, innovative and high medical value solution to physicians.

In 2017, we also witnessed a return to double-digit growth in our industrial microbiological control activities, with good results for the pharmaceutical sector.

Internationally, the Americas region gave an excellent performance with 16.5% growth. Today, this region represents 44% of Group sales. Also noteworthy was the strong momentum in Asia Pacific, where sales were up by 11%.

To continue to innovate and strengthen its pioneering position, bioMérieux has invested significantly in R&D. Because we work in an environment undergoing rapid change and transformation, we plan to further intensify our research efforts to anticipate and meet the challenges of tomorrow's diagnostics and medicine.

In line with this long-term vision, we continued to invest in capacity and infrastructure at our bioindustrial sites. The Company successfully completed pivotal in-house projects to enhance its reactivity and operational performance. Thus for example, the optimization of the Supply Chain, allowed us to respond to our customers' requirements with a high level of quality, as attested by the excellent results obtained in our recent satisfaction surveys.

## **TODAY WE HAVE SOLID ARGUMENTS TO SUPPORT AND PROMOTE THE MEDICAL AND THE ECONOMIC VALUE OF DIAGNOSTICS TO AN INCREASINGLY WIDER PUBLIC, BRINGING US CLOSER TO CLINICIANS AND OTHER KEY PLAYERS ALONG THE CARE PATHWAY.**

We are convinced of the determinant role of diagnostics in improving patient care, as well as in protecting consumer health.

Thanks to innovative tools that allow us to detect, target and treat diseases better and faster, diagnostics addresses major challenges such as antimicrobial resistance, sepsis and the prevention of health risks, particularly in the agri-food sector. These are our key priorities.

bioMérieux holds all the assets to be a flagship company in its field; committed teams working worldwide, expertise in the cutting-edge technologies that will drive the future of diagnostics, solid governance with a renewed Board of Directors with more women members, and the support of our shareholders.

I am fully confident in our ability to maintain the current momentum and thus ensure our long-term public health mission.

## GOVERNANCE

- Alexandre Mérieux appointed Chairman and CEO of bioMérieux

## PARTNERSHIPS

- **BIOMÉRIEUX & LUMED:** software to help the appropriate use of antibiotics in hospitals
- **BIOMÉRIEUX & ASTUTE MEDICAL:** distribution in the United States of the NEPHROCHECK® test for risk assessment of acute kidney injuries (AKI).

This distribution agreement adds to a license and collaboration agreement signed in 2015 for the development of the NEPHROCHECK® test on bioMérieux's VIDAS® immunoassay platform.

In April 2018, bioMérieux announced the acquisition of Astute Medical.

## REINFORCED INTERNATIONAL PRESENCE

- **MARCY L'ÉTOILE:** A new Campus strengthens the Company's roots
- **DURHAM:** New production line for BACT/ALERT® blood culture bottles
- **SALT LAKE CITY:** New facility housing manufacturing and R&D activities of the BIOFIRE® line
- **KENYA:** Opening of a new subsidiary



■ Campus de l'Étoile



■ Production line for BACT/ALERT® bottles



■ New facility for the BIOFIRE® line in Salt Lake City

## SOLUTIONS

### MICROBIOLOGY



BACT/ALERT® VIRTUO®  
for blood culture

FDA  
CLEARANCE



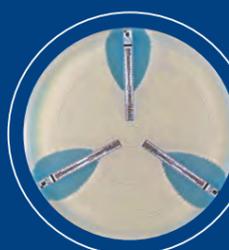
VITEK® MS  
Expanded database  
for pathogen  
identification

FDA  
CLEARANCE



FDA  
CLEARANCE

RAPIDEC® CARBA NP test  
Detection of antibiotic  
resistance  
(to carbapenems)



ETEST® Ceftolozane/Tazobactam  
and ETEST® Ceftazidime/Avibactam  
For antibiotic susceptibility  
testing



CHROMID® Colistin  
Detection of resistance  
to colistin, a last-resort  
antibiotic, for humans  
and animals

### IMMUNOASSAYS



FDA  
CLEARANCE

VIDAS® B-R-A-H-M-S PCT™ test  
Lower respiratory tract infections and sepsis.  
Antibiotic stewardship



VIDAS® D-DIMER test  
Extended use for monitoring  
women suffering from venous  
thromboembolic disease

VIDAS® anti-HEV IgG and  
VIDAS® anti-HEV IgM tests  
Hepatitis E

### MOLECULAR BIOLOGY



FDA  
CLEARANCE

BIOFIRE® FILMARRAY® RP2  
Respiratory infections

FDA  
CLEARANCE

CE  
MARKING

BIOFIRE® FILMARRAY® RP2plus  
Respiratory infections



ARGENE® Solution and  
TTV R-GENE®  
for transplant patients



## DIAGNOSTICS IS POWER

The power to fight infectious diseases

**#pioneeringdiagnostics**

bioMérieux wants to unleash the full power of diagnostics to fight infectious diseases and make an even greater impact to improve patient care: antimicrobial resistance and sepsis are just two of the targets against which the Company reinforced its arms in 2017.

January 9, 2018, bioMérieux adopted a new logo, backed by a new communications campaign

CLINICAL  
APPLICATIONS



## CLINICAL APPLICATIONS

# BIOMÉRIEUX, PIONEER IN THE MOLECULAR SYNDROMIC DIAGNOSIS OF INFECTIOUS DISEASES

For most patients with an infectious disease, the first symptoms are nonspecific: fever, diarrhea, coughing, headache, etc. For physicians, although it may be feasible to identify the kind of syndrome (respiratory, gastrointestinal, blood, neuro-meningitis), determining the exact cause is more difficult.

To meet this challenge, a syndromic approach using the BIOFIRE® FILMARRAY® multiplex molecular biology system, provides physicians with high medical value information. In 45 to 65 minutes, from a single sample and with a single test, it can simultaneously detect the most common pathogens (bacteria, viruses, yeast and parasites) that may be the cause of an infection.

■ By identifying up to 24 pathogens in about 1 hour with a single diagnostic test, BIOFIRE® FILMARRAY® reshapes the practices of healthcare professionals. This product line is especially appreciated in pediatric medicine, intensive care and emergency care.

■ These tests allow the distinction between viral and bacterial infections and may also detect antibiotic resistance genes, thus supporting the appropriate use of antibiotics.

■ Because they are easy to use, the tests provide healthcare professionals with actionable, rapid answers in close proximity to their patients.

## GROWING ADOPTION ON A GLOBAL SCALE

The BIOFIRE® FILMARRAY® product line is available in the Americas, Europe, the Middle East, Africa and Asia Pacific. While it first met with success in the United States, today our customers are found across the globe, with 13.5% of sales outside the United States.

The adoption of BIOFIRE® FILMARRAY® has been further supported by the results of a great number of scientific studies illustrating the medical value of these tests for biologists and clinicians, whilst improving patient outcome and reducing healthcare spending.

### AMERICAS REGION

#### UNITED STATES

- ➔ BIOFIRE® FILMARRAY® solutions have been available since 2010, their commercial success leaves no doubt: in 2017 the Company passed the 1,000<sup>th</sup>-customer mark.
- ➔ These solutions have been widely adopted by university hospitals as well as pediatric specialty centers.

#### CANADA

- ➔ Routine use of the BIOFIRE® FILMARRAY® Respiratory Panel at Vancouver General Hospital after publication of a study demonstrating its positive impact on the treatment of patients. Increased collaboration between doctors and biologists and the rapid use of test results have decreased patient isolation times by four days, while generating economies for the hospital.

#### LATIN AMERICA

- ➔ BIOFIRE® FILMARRAY® products are available in 15 Latin American countries, including Brazil since 2017.
- ➔ bioMérieux continues to lead the field of syndromic infectious disease testing and participated in more than 55 medical conferences.
- ➔ 4 webinars were developed with infectious diseases specialists to illustrate the value of BIOFIRE® FILMARRAY® for the diagnosis of respiratory and gastrointestinal infections, neuro-meningitis and sepsis. More than 100 healthcare professionals took part in each of these educational webinars.

“ When a patient comes into the emergency room with any type of worsening respiratory illness, or signs and symptoms of an influenza-like illness, we put them in isolation right away because we don't yet know what he has. With the BIOFIRE® FILMARRAY® Respiratory Panel, we can have a result ready for physicians in an hour, which is something that we've previously never been able to do. Having the certainty of being able to promise a result in an hour is extremely powerful.

For the patient, this helps improve response times not only for treatment, but also for infection control. And for the hospital, it helps improve bed management and bed flow time.”

#### ➔ DR. TITUS WONG

Primary investigator of the study carried out in Canada • Medical Microbiologist and Infection Control Physician at Vancouver General Hospital, Canada

“ The BIOFIRE® FILMARRAY® Respiratory Panel helped us make immediate clinical decisions. We observed a significant decrease in the use of antibiotics to treat respiratory infections and a reduction in the length of hospital stays and treatments required in our intensive care unit.”

#### ➔ DR. RAUL BUSTOS BETANZOO

Medical Director, Pediatric Intensive Care Unit, Clinica Sanatorio Alemán, Chile

“ With the BIOFIRE® FILMARRAY® Meningitis/Encephalitis Panel, we have seen a reduction in the result reporting time, we have appreciated the ample diversity of microorganisms in the panel and ease of use in handling the test. In my medical practice, having *Listeria monocytogenes* in the Meningitis/Encephalitis Panel is a differentiator.”

#### ➔ DR. GUSTAVO BRUNEIRA

Operational Director of Senne Liquor, Brazil

## GROWING ADOPTION ON A GLOBAL SCALE

### ASIA PACIFIC REGION

In this region, the BIOFIRE® FILMARRAY® range is particularly used, in Hong Kong, Singapore and India.

Pediatricians and doctors working in intensive care especially appreciate the medical value of this solution. Respiratory and gastrointestinal panels have recorded the strongest sales.

➔ Hong Kong: Most of the private hospitals are equipped with BIOFIRE® FILMARRAY® systems. The rapid, accurate results these tests deliver improve patient care. The BIOFIRE® FILMARRAY® Respiratory Panel is by far the most widely used panel. The densely-populated Hong Kong area would be at risk in the event of influenza outbreaks and is implementing rapid-care protocols for patients presenting with a respiratory syndrome.



“ The use of BIOFIRE® FILMARRAY® Respiratory Panel greatly facilitates the management of patients (judicious use of antivirals and antibiotics) as well as the implementation of appropriate infection control measures (patient allocation, antibiotic stewardships, etc.) in the hospital. The short turnaround time allows prompt triage of patients whilst the comprehensive panel provides highly sensitive and accurate results.”

➔ **DR. TANG SIU FAI, BONE**

Honorary Consultant in Microbiology, Honorary Adjunct Professor, Microbiology Department, University of Hong Kong, Specialist of Clinical Microbiology and Infection Pathology Department, Hong Kong Sanatorium and Hospital

“ BIOFIRE® FILMARRAY® Respiratory Panel was introduced in Changi General Hospital in 2016 to meet the growing demand for diagnosis of viral respiratory tract infections, especially in patients with more severe pulmonary infection. The RP test proved very successful after introduction, so much so that demand exceeded supply.”

➔ **DR. TAN THEAN YEN**

Assistant Professor, Director and Senior Consultant in Microbiology Changi General Hospital, Singapore



➔ BIOFIRE® FILMARRAY® TORCH

### THE MOST COMPREHENSIVE MENU ON THE MARKET

**THE RESPIRATORY PANEL** a complete panel that simultaneously analyzes 20 viruses and bacteria that cause respiratory diseases. It has been improved and expanded with the Respiratory 2 and Respiratory 2plus panels, which can simultaneously test for 21 and 22 pathogens even faster, in 45 minutes; (FDA accreditation for RP2 and for RP2plus which is also CE-marked).

**THE RESPIRATORY PANEL EZ (RP EZ)** which detects 11 viral and 3 bacterial pathogens associated with respiratory infections. RP EZ has been CLIA-waived for use in small point-of-care laboratories in the United States only.

**THE BLOOD CULTURE IDENTIFICATION PANEL** which identifies the 24 pathogens most frequently responsible for bloodstream infections as well as 3 antibiotic resistance genes, directly from a positive blood culture test.

**THE GASTROINTESTINAL PANEL** to identify 22 of the most common causes of infectious diarrhea.

**THE MENINGITIS/ENCEPHALITIS PANEL** which identifies 14 bacterial, viral, and fungal causes of meningitis and encephalitis, directly from cerebrospinal fluid.

### EUROPE, MIDDLE EAST, AFRICA REGION

#### WESTERN EUROPE

➔ The BIOFIRE® FILMARRAY® product line grew in 2017 with the launch of its RP2plus panel, an expanded and faster version of the RP panel that contains 2 additional pathogens: *Bordetella parapertussis*, one of the bacterial pathogens that causes whooping cough, which is highly contagious, and the coronavirus that causes the Middle East Respiratory Syndrome (MERS-CoV).

#### MIDDLE EAST

➔ The BIOFIRE® FILMARRAY® innovative technology was adopted in hospitals in Saudi Arabia, Qatar and the United Arab Emirates.

#### AFRICA

➔ Growing adoption of BIOFIRE® FILMARRAY® technology.

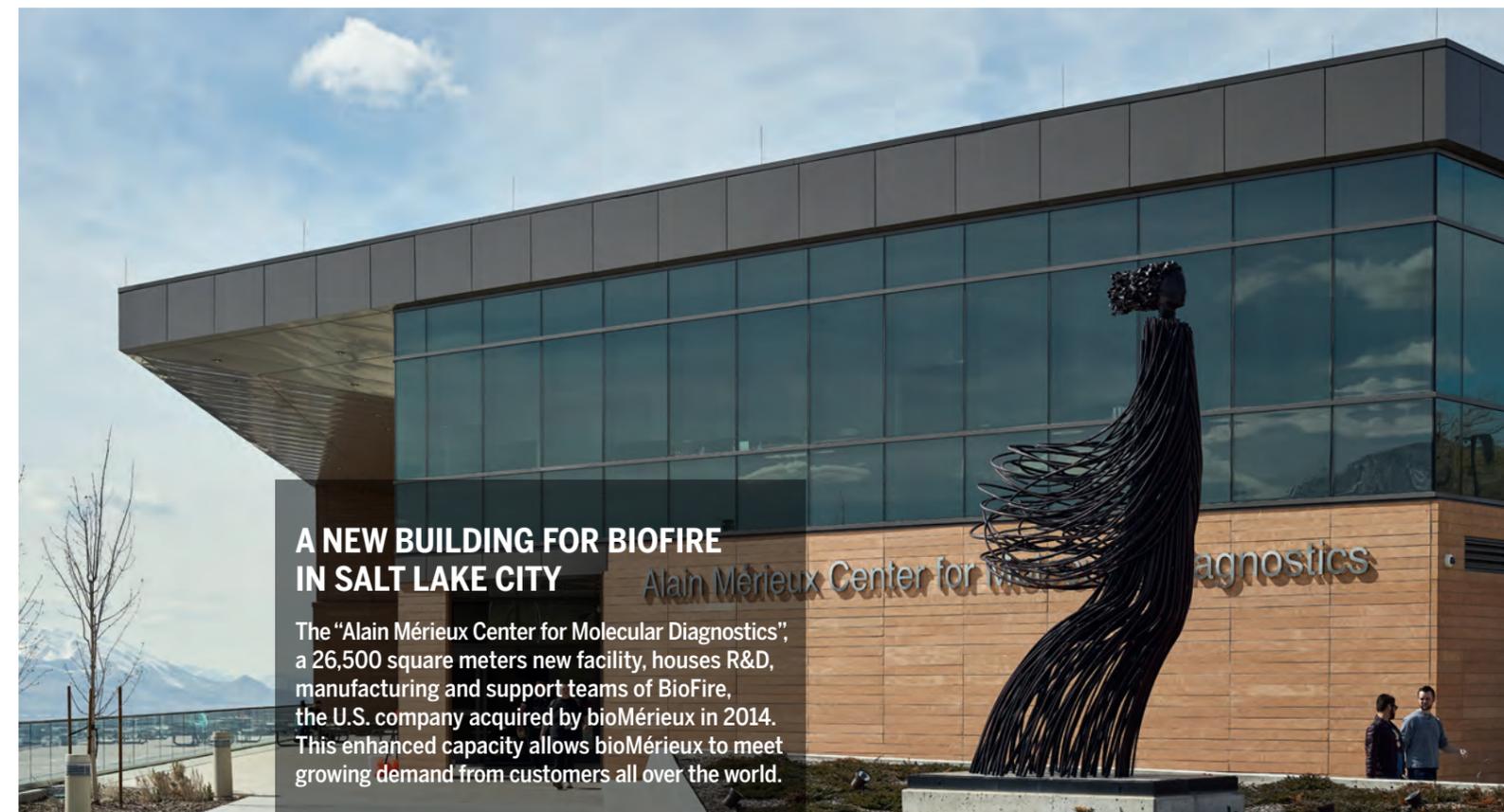


“ The ResPOC trial shows that molecular Point-of-Care testing using the BIOFIRE® FILMARRAY® Respiratory Panel improves the care of adult patients hospitalized with acute respiratory illness compared to standard care.

Generating rapid, accurate results that can be used to aid clinical decision-making in real-time leads to reductions in the length of hospital stay in addition to improvements in influenza detection, antiviral use and isolation facility use. Unnecessary antibiotic use is also reduced in patients with exacerbation of asthma and chronic obstructive pulmonary disease.”

➔ **DR. TRISTAN CLARK**

Associate Professor, Honorary Consultant in Infectious Diseases, University of Southampton, United Kingdom



### A NEW BUILDING FOR BIOFIRE IN SALT LAKE CITY

The “Alain Mérieux Center for Molecular Diagnostics”, a 26,500 square meters new facility, houses R&D, manufacturing and support teams of BioFire, the U.S. company acquired by bioMérieux in 2014. This enhanced capacity allows bioMérieux to meet growing demand from customers all over the world.



CLINICAL APPLICATIONS

## FIGHTING ANTIMICROBIAL RESISTANCE

**Every 4 minutes, in the world a person dies**, from an infection caused by bacteria that have become resistant to antibiotics<sup>1,2,3</sup>.

**By 2050, 10 million people** could die every year from an infection caused by antibiotic-resistant bacteria<sup>4</sup>.

**Each year in the United States, at least 2 million people become infected** with bacteria that are resistant to antibiotics and at least 23,000 people die as a direct result<sup>2</sup>.

### BIOMÉRIEUX'S INVOLVEMENT WITH INTERNATIONAL BODIES

bioMérieux is one of the pioneers of the development of diagnostic tests for the identification of infectious disease agents and the detection of their potential resistance to antibiotics, as well as antibiotic susceptibility testing to help physicians determine precisely which antibiotic to prescribe. In 2017, bioMérieux was a signatory to the declaration on antimicrobial resistance at the World Economic Forum in Davos (Switzerland). The Company also took part in the launch of the AMR Industry Alliance, a consortium created to drive and measure industry progress and provide sustainable solutions to curb antimicrobial resistance. Mark Miller, bioMérieux's Corporate Vice President and Chief Medical Officer, sits on the Alliance's Board of Directors as a representative of the diagnostics industry.

“Rapid diagnostic tools for bacterial infections, which allow doctors to identify the nature of an infection in minutes instead of hours or days, have the potential to transform the diagnosis and treatment process from an empirical one to a precise one.

[...] This is what is needed to make a dent in the very large number of antibiotic prescriptions given mistakenly for viral infections.”

THE REVIEW ON ANTIMICROBIAL RESISTANCE CHAIRED BY JIM O'NEILL (OCTOBER 2015)



### A GLOBAL PUBLIC HEALTH EMERGENCY

Antimicrobial resistance (AMR) is recognized as a public health emergency worldwide. Recently, several decisions have supported and strengthened the international community's commitment to address this threat. The 2016 adoption of the One Health approach by the United Nations General Assembly marked a decisive turning point. This approach is

based on the continuum between human health and animal health in the fight against infectious agents. The European Commission, which has been strongly committed to this issue for several years, published an action plan in June 2017 based on this same approach to combat antimicrobial resistance.

In addition, in July 2017, AMR was included in the Declaration made by the members of the G20, underlining the importance of a global health approach and the development of the use of diagnostic tests.

1) Antimicrobial resistance WHO Fact sheet N°194, updated April 2015. <http://www.who.int/mediacentre/factsheets/fs194/en>

2) CDC website on antimicrobial resistance: [www.cdc.gov/drugresistance](http://www.cdc.gov/drugresistance)

3) Laxminarayan et al. Antibiotic resistance – the need for global solutions. *Lancet Infectious Diseases* 2013;13:1057–98.

4) Jim O'Neill. Antimicrobial resistance: Tackling a crisis for the health and wealth of Nations. This estimated figure takes into account infections caused by 6 major pathogens: *Escherichia coli*, *Klebsiella pneumoniae*, *Mycobacterium tuberculosis* and *Staphylococcus aureus*, as well as HIV and the parasite that causes malaria.

## EXPANDING OUR PORTFOLIO

### VIDAS® B-R-A-H-M-S PCT™

TO SUPPORT ANTIBIOTIC STEWARDSHIP IN RESPIRATORY INFECTIONS AND SEPSIS



In February 2017, bioMérieux received FDA clearance for the expanded use of VIDAS® B-R-A-H-M-S PCT™. This test helps physicians determine the most appropriate antibiotic to prescribe for patients presenting with lower respiratory tract infections as well as patients presenting with sepsis.

Using the VIDAS® B-R-A-H-M-S PCT™ test in these frequent and important clinical situations will contribute to limiting the inappropriate and unnecessary use of antibiotics, which may avoid the side effects associated with their use while slowing and even preventing the emergence of resistant bacteria.

### CHROMID® COLISTIN

FOR USE IN BOTH HUMAN AND VETERINARY MEDICINE

Colistin resistance is a threat to both human and animal health. This is why the chromogenic culture medium CHROMID® Colistin was designed and validated for the screening of both human and veterinary samples, to detect the presence of colistin-resistant bacteria. This product is fully in line with the One Health approach as defined by the General Assembly of the United Nations in 2016.

### RAPIDEC® CARBA NP

FOR THE DETECTION OF CARBAPENEM RESISTANCE



In July 2017, this high medical value manual test received 510(k) clearance from the FDA.

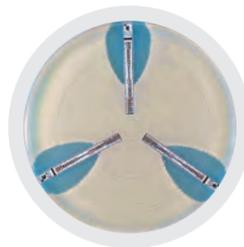
The RAPIDEC® CARBA NP test provides a simple, rapid way to confirm the presence of resistance to carbapenems by detecting carbapenemase-producing bacteria. Carbapenemases are enzymes that hydrolyze carbapenems, a very broad-spectrum class

of antibiotics. Carbapenems are used exclusively in hospital settings to treat multi-drug resistant bacterial infections. This rapid detection leads to improved patient care and better control of healthcare-associated infections.

This manual method is complementary to the VITEK® 2 system for the identification of bacteria and automated susceptibility testing, and also to ETEST® manual tests, used to determine the Minimum Inhibitory Concentration. The MIC is the lowest concentration of antibiotic necessary to inhibit the growth of a specific bacterium.

### TWO NEW ETEST® STRIPS

TO DETERMINE ANTIBIOTIC SUSCEPTIBILITY



ETEST® Ceftolozane/Tazobactam and ETEST® Ceftazidime/Avibactam determine the Minimum Inhibitory Concentration (MIC) values

necessary to effectively treat infections caused by multi-drug resistant organisms.

Launched in the second half of 2017, these tests assess the antimicrobial susceptibility of specific bacteria to these new antibiotics indicated for the treatment of infections in adults faced with limited therapeutic options. They expand the ETEST® range, which includes more than 95 antimicrobial references.

## STRATEGIC COLLABORATIONS AND PARTNERSHIPS

### A PARTNERSHIP WITH LUMED FOR ANTIBIOTIC STEWARDSHIP IN HOSPITALS

In October 2017, bioMérieux signed a partnership agreement with Lumed, an innovative start-up specialized in information technology and healthcare. The agreement concerns in particular the distribution of Lumed's APSS (Antimicrobial Prescription Surveillance System) software in Canada, the United States and Europe. APSS is a decision support system designed for hospital teams in charge of antibiotic stewardship. A recently published study demonstrated that it can lead to a 20% reduction in the use of antibiotics in hospitals<sup>5</sup>.

### COLLABORATION WITH PFIZER FOR THE ICREST STUDY

As part of an ongoing collaboration with the pharmaceutical company Pfizer, bioMérieux supports iCREST (infection-Carbapenem Resistance Evaluation Surveillance Trial), a multicenter surveillance study. This project pursues two objectives: to determine the prevalence of infections caused by bacteria resistant to the carbapenem class of antibiotics and to evaluate the efficacy of a new antibiotic combining ceftazidime and avibactam for the treatment of these serious infections. Three products developed by bioMérieux are being used: the chromogenic culture medium CHROMID® CARBA SMART and two antibiotic susceptibility tests, ETEST® Ceftazidime/Avibactam and ETEST® Meropenem.

### RENEWED SUPPORT FOR THE GLOBAL-PPS



In 2017, bioMérieux renewed its support for the Global Point Prevalence Survey (GLOBAL-PPS), which brings a unique knowledge of antibiotic consumption and antimicrobial resistance worldwide.

Coordinated by Professor Hermann Goossens and Dr. Ann Versporten of the University of Antwerp (Belgium), this survey highlights the importance of *in vitro* diagnostics and the need to expand the use of diagnostic tests to improve antibiotic prescribing practices worldwide.

In 2017, the GLOBAL-PPS was conducted in more than 65 countries. It focused in particular on education and low- and medium-income countries. This project is designed to help hospitals draw up action plans based on the results of the survey in their own centers and on local priorities.

<sup>5</sup> Nault et al. Sustained impact of a computer-assisted antimicrobial stewardship intervention on antimicrobial use and length of stay. *The Journal of Antimicrobial Chemotherapy*, march 2017.

<sup>6</sup> Committed to antimicrobial resistance and antibiotic stewardship, bioMérieux is the exclusive sponsor of the Global Point Prevalence Survey as well as of the online training related to this survey. The Company funds the survey but plays no role in the study design, selection, analysis and interpretation of data nor in drafting the report. The data, which are strictly confidential, are stored anonymously at the Coordination Center of the University of Antwerp (Belgium).



CLINICAL APPLICATIONS

# SEPSIS, A MAJOR PUBLIC HEALTH CHALLENGE

Each year, 27 to 30 million people worldwide are affected by sepsis<sup>1</sup>, which causes one death every 3 or 4 seconds. Sepsis affects people of all ages, but for some individuals the risk is higher: for those with a compromised immune system, certain age groups (children under one year and people over 60), patients receiving an immunosuppressive therapy, and people who are more susceptible following an illness.

With sepsis, every minute counts and medical decisions must be made extremely rapidly<sup>2</sup>. For sepsis, mortality lies between 20 to 30% and in the case of septic shock, is as high as 70%<sup>3</sup>. Diagnostics play an essential role for optimized patient care.

In May 2017, the World Health Organization adopted a resolution to improve the prevention, diagnosis and clinical management of sepsis, a clear indication of the international community's recognition of sepsis as a major health concern.

Such global awareness is fully in line with bioMérieux's longstanding commitment to combat this serious infection. The Company has the most comprehensive offering on the market for the diagnosis of sepsis.

## THE SEPSIS SOLUTION INTEGRATED APPROACH

bioMérieux offers a range of immunoassay, microbiology and molecular biology tests. Launched in 2016, the Sepsis Solution, leads to workflow optimization so that sepsis patient samples arriving to the laboratory undergo analysis as quickly as possible, thus providing clinicians with results that facilitate medical decision making.

**THIS OFFERING INCLUDES:**

- ➔ The measurement of a patient's procalcitonin level with the VIDAS® B·R·A·H·M·S PCT™ test;
- ➔ Blood cultures, with the BACT/ALERT® range and BACT/ALERT® VIRTUO®, a fully automated blood culture system that continuously processes urgent samples 24/7;
- ➔ Molecular syndromic diagnostics, with the BIOFIRE® FILMARRAY® Blood Culture Identification Panel, which after just 2 minutes hands-on time for a positive blood culture, identifies pathogens in one hour;
- ➔ Rapid, automated identification of pathogens using mass spectrometry with the VITEK® MS system;
- ➔ Reliable identification of pathogens and automated antibiotic susceptibility testing with the VITEK® 2 system;
- ➔ The manual ETEST® range, providing precise information about an antibiotic's inhibitory concentration (indicating bacterial sensitivity to antibiotics);
- ➔ Lab Consulting solutions to analyze sample flow in the laboratory and propose an organization to improve operational efficiency and time-to-results;
- ➔ MYLA® software, which processes microbiology data and ensures connectivity to link several microbiology analysis instruments.

## A DISTRIBUTION AGREEMENT FOR THE NEPHROCHECK® TEST

In March 2017, bioMérieux and Astute Medical entered into a distribution agreement for the NEPHROCHECK® test in the United States. This high medical value test is a tool for early risk assessment of acute kidney injury (AKI) based on urinary biomarkers, that is changing the way hospital physicians approach this pathology. AKI is a frequent complication of severe conditions, sepsis in particular, and increases its mortality rate. The distribution agreement adds to the 2015 license and collaboration agreement between the two partners for the development of a NEPHROCHECK® test on bioMérieux's VIDAS® immunoassay system.

In April 2018, bioMérieux announced the acquisition of Astute Medical.



## BACT/ALERT® VIRTUO® ENSURES FASTER DETECTION OF INFECTIONS

In April 2017, bioMérieux's automated blood culture system BACT/ALERT® VIRTUO® received 510(k) clearance from the FDA. BACT/ALERT® VIRTUO®, which has also received CE marking, is the first continuously-monitoring blood culture microbial detection system with "Load & Go" technology, making it possible to load samples in the system 24/7. It helps streamline lab workflows and reduce the time necessary to detect bacteria in the bloodstream.

The system also features a unique blood level detection technology measuring the blood volume in each blood culture bottle. It helps laboratories track and ensure collection of the recommended blood volume in order to be compliant with accreditation and quality guidelines such as the standards from the College of American Pathologists.

1) Global Sepsis Alliance, <https://www.global-sepsis-alliance.org>  
 2) Kumar et al., Critical Care Medicine, 2006, vol. 34 : p. 1589-1596  
 3) Chun et al., Journal of Laboratory Automation, 2015, Vol. 20(5) 539-56



## DIAGNOSTICS IS POWER

The power to protect consumer health



**#pioneeringdiagnostics**

Harnessing the power of diagnostics is essential to protect consumer health. Ensuring the safety of agri-food and pharmaceutical products and preventing the risk of contamination are priorities for bioMérieux, which in 2017 confirmed its position as leader in industrial microbiology.

INDUSTRIAL  
APPLICATIONS



## INDUSTRIAL APPLICATIONS

# THE IMPORTANCE OF INDUSTRIAL MICROBIOLOGICAL CONTROL

Diagnostic tests are used to monitor the microbiological quality of manufactured products for agri-food, pharmaceutical, cosmetics and veterinary purposes.

bioMérieux's solutions for industrial customers are designed to test both their production and the production environment. In 2017, this activity recorded very solid growth at 9.8%.

With strong development over the past four years, sales growth to customers in the pharmaceutical sector doubled in 2017, driven by growth across the three regions. This performance confirms that applying our clinical microbiology expertise to industrial microbiological control is a worthwhile strategy.

## INCREASE IN DEMAND FOR MICROBIOLOGICAL CONTROL IN BIOPRODUCTION AND PERSONALIZED THERAPIES

The bioproduction sector is promising for the development of bioMérieux's microbiological control activity, notably in the Americas region. Bioproduction involves producing medicines using biotechnologies. They can be used for instance in the field of immunotherapy for cancer patients as well as for gene and cell therapy.

In 2017, bioMérieux's activity to serve these industrial customers increased and its rapid microbiology solutions such as BACT/ALERT® and SCANRDI® are particularly successful. The speed at which the results of analyses are delivered is a critical factor for this industry: once control results are obtained, these medicines can be released. For some conditions, it is crucial to reduce the window of time for treatment.

## A PROVEN SOLUTION FOR ENDOTOXIN DETECTION

In 2016, bioMérieux acquired Hyglos, a German-based company, specialized in the detection of endotoxins in pharmaceutical products. Hyglos has developed an innovative method from recombinant proteins that avoids the use of blood taken from horseshoe crabs (*Limulidae*) currently used in some endotoxin detection tests. This family of crab is endangered in Asia and protected in the United States. In 2017, bioMérieux and Hyglos teams jointly developed a new generation of tests based on these recombinant technologies.

Hyglos has also developed a unique and original technology for detecting endotoxins that may be "masked" in some complex pharmaceutical formulations. This technological solution was developed to specifically meet the needs of companies in the pharmaceutical sector for their bioproduction activities.

## IDENTIFICATION: GREATER FLEXIBILITY, MORE ANSWERS

In 2017, bioMérieux and Mérieux NutriSciences launched the VITEK Express identification service in the United States, Italy and Spain. For labs that may need confirmation, this service allows them to send their samples to Mérieux NutriSciences for complementary tests to be performed using mass spectrometry on the VITEK® MS system or using gene sequencing tools, thus benefiting from bioMérieux's expertise in microbiology.

## MEETING CUSTOMERS' EXPECTATIONS

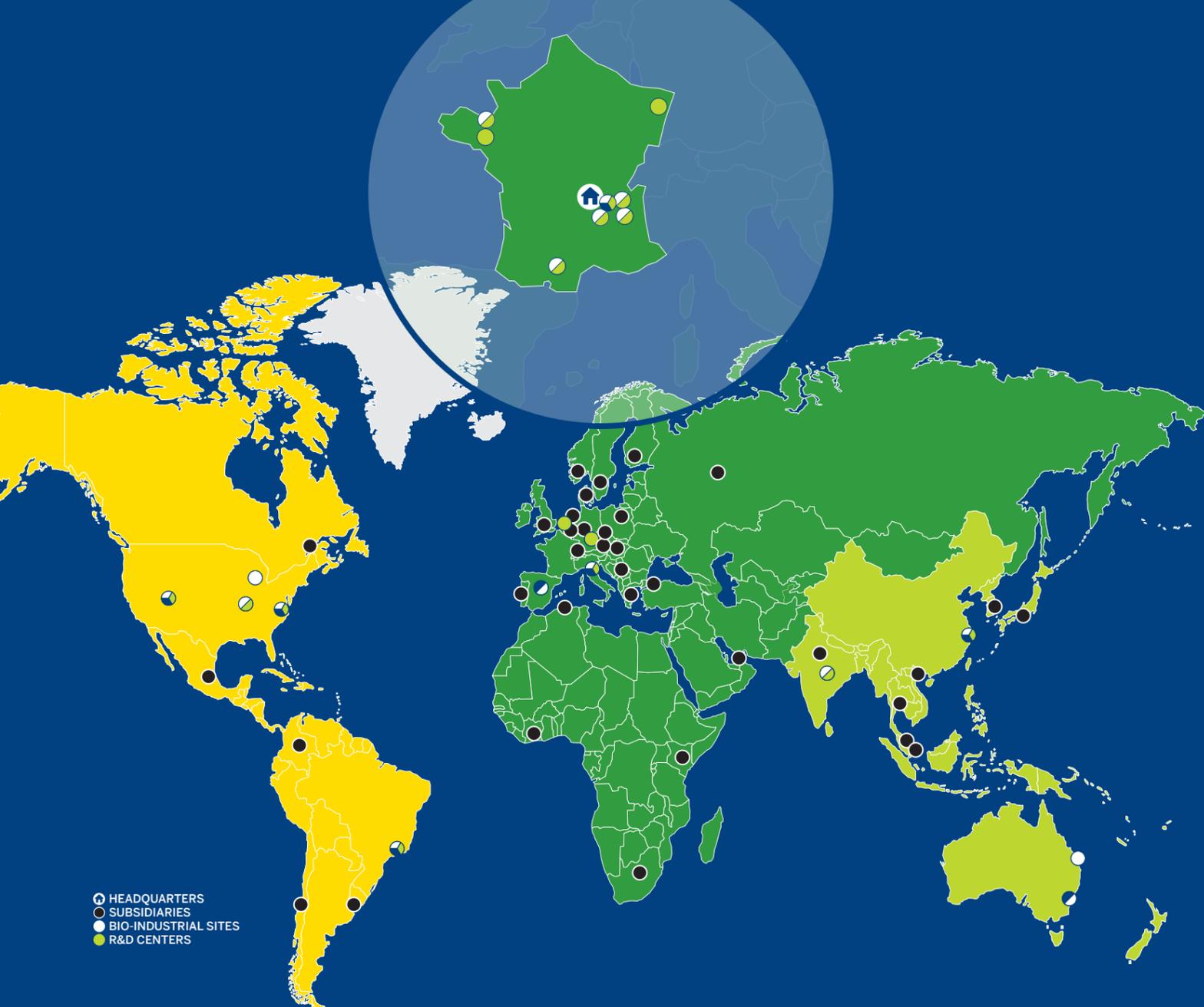
We have invested heavily in our production tool in recent years to guarantee supplies of culture media for customers in the pharmaceutical sector. We have also invested in quality to maintain the highest standards in the manufacture of these products.

In 2017, twenty-two customer audits took place at the Craponne site, our largest culture media production site for pharmaceutical customers. During these visits, auditors were able to witness first-hand the quality of our production and the dedication of our teams.

## WHAT ARE ENDOTOXINS?

Endotoxins are a component of the outer membrane of certain Gram-negative bacteria that can cause high fevers.

Pharmacopoeial standards require that this type of substance be absent from pharmaceutical products that come into contact with the bloodstream or the central nervous system, such as injectable drugs and medical devices. It is also recommended that the endotoxins be quantified in raw materials or in-process materials.



○ HEADQUARTERS  
 ● SUBSIDIARIES  
 ● BIO-INDUSTRIAL SITES  
 ● R&D CENTERS



### AMERICAS REGION

**SALES** €1,006 million ■ Growth: **+ 16,5%**



Continued double-digit strong growth in North America.  
Acceleration in Latin America: **+13%**

**CLINICAL DIAGNOSTICS:**  
Sales growth boosted by BIOFIRE® FILMARRAY® and the VITEK® microbiology line

**INDUSTRIAL MICROBIOLOGICAL CONTROL:**  
Strong momentum of the VITEK® and VIDAS® lines



### EUROPE, MIDDLE EAST, AFRICA REGION

**SALES** €878 million ■ Growth: **+ 3,9%**



Growth in Europe, driven by the good results of the main subsidiaries: France, Germany and Italy  
Sustained increases in the Middle East and Turkey

**CLINICAL DIAGNOSTICS:**  
Growth fueled by the deployment of BIOFIRE® FILMARRAY® in Europe and the other ranges in the Middle East, Turkey, Russia and Africa

**INDUSTRIAL MICROBIOLOGICAL CONTROL:**  
Sustained activity in France, the UK, Russia and Spain



### ASIA PACIFIC REGION

**SALES** €397 million ■ Growth: **+ 11%**



China was the primary driver of growth  
Solid performance in India & ASEAN\*

**CLINICAL DIAGNOSTICS:**  
Commercial momentum sustained by the strategic lines VITEK®, BACT/ALERT®, VIDAS® and BIOFIRE® FILMARRAY®

**INDUSTRIAL MICROBIOLOGICAL CONTROL:**  
Strong driver of business growth, in particular thanks to the VITEK® product range

\* Association of Southeast Asian Nations



## DIAGNOSTICS IS POWER

The power to save lives



**#pioneeringdiagnostics**

True to our public health mission and driven by the power of diagnostics, bioMérieux is committed to protecting life. We are focused on improving the quality of life of the many communities we interact with, the development of our employees, furthering access to care for the most vulnerable patients, countering new infectious threats worldwide, and sustaining the efficacy of healthcare systems for future generations...

CORPORATE  
RESPONSIBILITY

# COMMITTED TO BEING A SOCIALLY RESPONSIBLE COMPANY, WITH A HUMANISTIC VISION

As a pioneer in the field of *in vitro* diagnostics for more than 50 years, bioMérieux has always combined economic development with a socially responsible, humanistic approach in line with the values upheld by the Mérieux family.

Our Company's actions extend beyond our products and services. They reflect a broader vision of society, with the ambition of contributing to the fight against infectious diseases worldwide and addressing major public health challenges such as antimicrobial resistance.

Through its tangible accomplishments, this vision supports the United Nations Sustainable Development Goals and upholds the principles of the UN Global Compact.

## THE UN GLOBAL COMPACT

bioMérieux has been a member of the United Nations Global Compact since 2003.

The Global Compact's key principles\* have guided our initiatives over the course of 2017. From the beginning, our Company has always placed great importance on implementing initiatives that promote respect for human rights, labor conditions, the environment and the fight against corruption, which comprise the four pillars that ensure the strength of the Global Compact.

## RECOGNITION OF OUR CORPORATE SOCIAL RESPONSIBILITY POLICY

In past years, bioMérieux integrated Socially Responsible Investment (SRI) indices. This includes the Ethibel Forum (Ethibel Sustainability Index (ESI) Excellence Europe), which builds on the work of the rating agency Vigeo, and the FTSE Russell (FTSE4-Good Index). In 2017, the Company joined additional indices and obtained new labels: Vigeo Eiris, OEKOM Research, CDP and EcoVadis, which is a platform for rating corporate social and environmental performance. EcoVadis ranked bioMérieux among the top 5% of companies for excellent CSR performance, recognition of the Company's ongoing efforts to reconcile a sustainable social commitment to serving public health with business development.

## THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS



\* See appendix

# 1. COMMITTED TO PEOPLE

As a public health stakeholder, bioMérieux places the patient and, more broadly, public health at the heart of its business activity. As a Company, we are aware of our social responsibility and, in accordance with Article 25 of the Universal Declaration of Human Rights we are committed to providing global health solutions that improve the management of infectious diseases. Our commitment focuses on four areas: fighting antimicrobial resistance to sustain the efficacy of antibiotics for future generations, furthering access to diagnostics for the most disadvantaged populations, improving maternal and infant health, and combatting epidemics.

## SUSTAINING ANTIBIOTIC EFFICACY FOR FUTURE GENERATIONS



## BIOMÉRIEUX SUPPORTS THE GLOBAL-PPS

Antimicrobial resistance is a major threat to public health worldwide. bioMérieux develops diagnostic solutions to ensure that antibiotics are used correctly so that they will remain effective. We also organize awareness-raising initiatives to ensure the proper use of these treatments. Since the launch of the Global Point Prevalence Survey (GLOBAL-PPS) in 2014, we have supported this survey of unprecedented scope to obtain key information about antibiotic use and bacterial resistance in hospitals worldwide.

→ In 2017, bioMérieux renewed its support for the coordinating team of the GLOBAL-PPS, Professor Herman Goossens and Dr. Ann Versporten of the University of Antwerp (Belgium). This study was conducted in 2015 in 53 countries and 335 hospital centers, collecting data from over 100,000 hospitalized patients.

The 2017 GLOBAL-PPS was conducted in 51 countries, targeting resource-limited countries in particular. The introduction of new tools, such as on-line training developed by the British Society for Antimicrobial Chemotherapy (BSAC) with the support of bioMérieux, has strengthened the educational dimension of the survey. Combined with other tools, the on-line training module is designed to support hospitals as they develop custom-designed actions plans based on survey findings.

The findings of the GLOBAL-PPS highlighted the importance of *in vitro* diagnostics to optimize antibiotic prescribing practices. The survey enables each participating hospital to assess its performance and compare its practices with those of other centers to identify areas for improvement. The GLOBAL-PPS rapidly demonstrated its value as an effective tool to track and measure corrective actions implemented within the hospital centers. In some cases, the survey prompted national improvement programs.



**Prof OYIN ODUYEBO**

Clinical Microbiologist with the Department of Medical Microbiology and Parasitology of the College of Medicine and the Lagos University Hospital (Nigeria)

### Concrete applications on the ground

"Thanks to the GLOBAL-PPS, we were able to evaluate our antibiotic prescribing practices for the very first time in Nigeria," said Prof Oyin Oduyebo. She has been involved in the Nigerian national action plan for combating antimicrobial resistance by getting Nigerian laboratories ready for antimicrobial resistance surveillance and developing a national protocol for surveillance of antimicrobial resistance for the Nigeria Centre for Disease Control. She relied on the GLOBAL-PPS findings to contribute to this project.

"In Nigeria, the GLOBAL-PPS has provided information to improve our understanding of the practices of various centers and to issue recommendations, particularly concerning antibiotic use and microbiology analyses to reduce the unnecessary prescription of antibiotics," explained Prof Oyin Oduyebo. "It is also important to confirm the value of prescribing antibiotics, based on microbiological analyses, in order to determine the optimum duration of treatment as well as to develop and defend our own recommendations for surgical prophylaxis."

The GLOBAL-PPS was renewed in 2018. The survey takes a long-term perspective to compare data at regular intervals and measure the impact of implemented actions and observed improvements within the hospital. Experience has shown that identifying potential areas for improvement and raising awareness among healthcare professionals about the appropriate use of antibiotics are essential to the fight against antimicrobial resistance.

### A GLOBAL HEALTH CHALLENGE

Antimicrobial resistance (AMR) causes 700,000 deaths each year. If nothing is done to combat this problem, forecasts<sup>1</sup> suggest that AMR will cause 10 million deaths annually by 2050. Overconsumption of antibiotics and their misuse in both human and animal medicine is one of the primary causes of AMR, which is why it is urgent to promote the appropriate use of antibiotics.

### A WEBSITE FOR AWARENESS AND INFORMATION

In June 2016, bioMérieux created a website dedicated to antibiotic resistance: [www.antimicrobial-resistance.biomerieux.com](http://www.antimicrobial-resistance.biomerieux.com). This educational site provides information for healthcare professionals and the general public.

### A DISCUSSION WITH LORD JIM O'NEILL



On March 7, 2018, as part of its AMR Forum, bioMérieux welcomed Lord Jim O'Neill, an eminent economist, politician and philanthropist who chaired *The Review on Antimicrobial Resistance*, for a day of discussion at the Marcy l'Etoile campus (France) attended by nearly 100 AMR specialists.

<sup>1</sup>) OMS et Jim O'Neill, Antimicrobial resistance: Tackling a crisis for the health and wealth of Nations (December 2014)



## IMPROVING MATERNAL AND INFANT HEALTH AND COMBATting EPIDEMICS



bioMérieux has a longstanding presence in Africa, where we have built up a distribution network for our diagnostic solutions. The Company is particularly committed to improve the health of mothers and young children by targeting four priority diseases: respiratory infections, diarrhea, sepsis and meningitis. Initiatives are designed to improve access to diagnostics, provide education and training on *in vitro* diagnostic tools, foster public-private partnerships, and develop innovative products that address the specific public health challenges facing African countries.

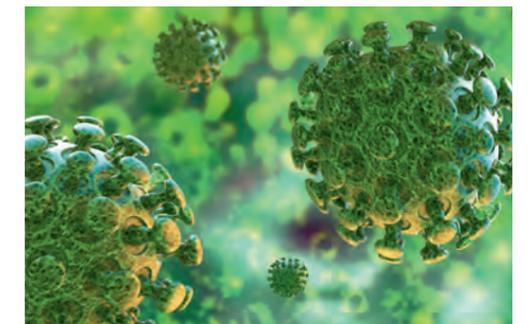
### IMPROVING CARE FOR YOUNG CHILDREN

bioMérieux and McMaster University (Canada) have established a partnership for the donation of a BIOFIRE® FILMARRAY® system and Gastrointestinal panels.

These tests are being used for a clinical study currently being conducted at the Botswana National Laboratory. The study aims to optimize the management of acute diarrhea in young children.

### A WORKSHOP THE IVORY COAST

In February 2017, bioMérieux sponsored a three-day workshop in Grand Bassam (the Ivory Coast), organized by the Institute of Medicine and Applied Epidemiology (University of Paris-Diderot) and the University of Abidjan. The workshop explored diagnostic and therapeutic fever management strategies in sub-Saharan Africa. bioMérieux led sessions devoted to the diagnosis of sepsis and syndromic diagnostics. The workshop was attended by 100 participants: experts, pediatricians, and gynecologist-obstetricians who are faced with the challenge of managing maternal and newborn infections.



### COMBATting MERS-COV

Middle East respiratory syndrome (MERS) is an emerging disease identified for the first time in 2012 in Saudi Arabia. It is caused by a coronavirus, which is responsible for diseases ranging from the common cold to severe acute respiratory syndrome (SARS). According to the WHO, mortality rates associated with Middle East respiratory syndrome coronavirus (MERS-CoV) are around 35%. In some cases, a MERS-CoV epidemic, such as the one that broke out in the Republic of Korea, has led to a significant risk of widespread transmission and disruptions to healthcare systems and society.

In April 2017, bioMérieux announced the CE marking of the BIOFIRE® FILMARRAY® Respiratory Panel (RP2plus), which tests simultaneously for 22 pathogens (18 viruses and 4 bacteria) that cause respiratory tract infections, including MERS-CoV. This expanded version of the BIOFIRE® FILMARRAY® Respiratory Panel features reduced time to results (45 minutes instead of 1 hour previously) and greater sensitivity.

### TRAINING AND A CLINICAL STUDY IN GUINEA

As new epidemiological trends for malaria are seen in Africa, with a significant drop in incidence, and as other diseases are appearing or re-appearing (the Ebola Virus Disease, for example), diagnostics will become increasingly important in the way fevers are managed.

Managing patients with fever is a key challenge for the diagnosis and treatment of infectious diseases in Guinea. The association Santé en Entreprise organized a three-day training workshop on this topic in September 2017 in Conakry. bioMérieux teams contributed to the design and implementation of the workshop.

Within the scope of a partnership to combat the Ebola virus, bioMérieux donated 2 BIOFIRE® FILMARRAY® systems to Donka Hospital in Conakry for the hospital to conduct a clinical study of the utilization of the BIOFIRE® FILMARRAY® BioThreat-E test (Ebola).



## PROMOTING ACCESS TO DIAGNOSTICS THROUGH THE FOUNDATIONS



FONDATION CHRISTOPHE & RODOLPHE MÉRIEUX

As part of its sponsorship activities, bioMérieux supports the initiatives of two foundations: the Fondation Mérieux, which has public interest status and celebrated its 50th anniversary in 2017, and the Fondation Christophe and Rodolphe Mérieux, under the aegis of the Institut de France.

These two independent family foundations combat infectious diseases that affect developing countries, especially through capacity-building in the field of diagnostics. In 2017, bioMérieux allocated €2 million to the Mérieux Foundations.

The foundations work in close cooperation in around 30 countries. A number of projects to benefit the most vulnerable communities have been carried out thanks to support from bioMérieux.

## RENEWED FOCUS ON MATERNAL AND INFANT HEALTH

Taking a global health approach, the Foundations actively support programs to protect the most vulnerable groups, especially mothers and children. In addition to working to build local biological capacity, they focus on food and water safety, nutrition, housing, education and socio-economic concerns. They continued initiatives in 2017 in countries where laboratories have been set up as well as countries affected by humanitarian crises.

### IN IRAQI KURDISTAN

The Foundations decided to enlarge the Pauline Jaricot Medical Center in Erbil, created in 2016, along with two project partners from Lyon: Œuvres Pontificales Missionnaires de Lyon and Fondation Saint-Irénée. This center provides comprehensive medical care for the numerous displaced persons in this region. The new facilities, inaugurated in early 2018, will be dedicated to providing care for mothers and infants.

The Foundations are building a medical-social center for women and children of the Yazidi religion, whose members have been massacred by ISIS. The Fondation Mérieux also plans to rebuild the primary school in Qaraqosh that was destroyed by ISIS.

### IN HAITI

In Haiti, the Foundations support various children's homes, including the village of Nazareth in Leogane, a center that provides a home and support for orphans and disadvantaged children from birth to age six. It was founded in 2012, in the aftermath of the earthquake, thanks to the support of the Fondation Christophe and Rodolphe Mérieux. Currently 60 children live at the center. In 2017, the Foundations continued to provide support for the children's home run by Our Lady of the Miraculous Medal in Cape Haitian, where 17 children live. They also gave ongoing support to the Association for Cooperation with Micro Enterprise, which for the past 11 years has provided access to micro-credit for more than 4,500 women living with HIV/AIDS.

### IN MADAGASCAR

The Foundations support several medical-social centers and associations by covering costs for hospitalization and medical exams (for 100 people in 2017) and buying medicines (for 1,200 children in four centers and associations in 2017).

### A NEW LABORATORY IN TUNISIA

Construction began on the new Rodolphe Mérieux Laboratory of Tunis in April 2017. It will be the first BSL-3 containment laboratory in Tunisia and one of the only such labs in Africa. Managed by the Institut Pasteur in Tunis, it will contribute to improving health research in Tunisia and is being built to comply with the most demanding international safety standards. The new lab joins the network of Rodolphe Mérieux laboratories in Mali, Cambodia, Laos, Bangladesh, Haiti, Madagascar, Lebanon and Brazil.

### RENOVATIONS IN CAMBODIA

Extensive renovations were undertaken in 2017 at the Rodolphe Mérieux laboratory, built in 2005 at the University of Health Sciences (UHS) in Cambodia. The lab's technical capacities were also improved as it prepares to host a biobank for the storage of biological materials used in UHS research projects and new molecular biology facilities that will enlarge the scope of its activities.



### AN IVORY COAST TEAM RECEIVES THE CHRISTOPHE MÉRIEUX PRIZE

The 2017 Christophe Mérieux prize was awarded to Serge Eholié and Xavier Anglaret of the Center for Research on Infectious Diseases and Associated Pathologies in Abidjan (the Ivory Coast). Together they direct a top-level team of Ivorian and French scientists who conduct research on infectious diseases and train young scientists in medical research. Since the prize was established in 2007 by the Fondation Christophe and Rodolphe Mérieux, it has been awarded to 12 scientists who contribute at the grass-roots level to the fight against diseases affecting their countries. Prizewinners received €500,000.



## FORGING STRONG TIES WITH LOCAL STAKEHOLDERS



### WITH SCHOOLS AND ACADEMIC INSTITUTIONS

bioMérieux is a partner to top-ranking institutions of French higher education and universities, ensuring strong cooperation with the world of university research.

→ In 2015, the Company established a five-year partnership with **EMLYON Business School** in France. bioMérieux was one of the first companies to join the Global Business Network, which brings together major international businesses that are partners to the school. We have become the partner with expertise in the life sciences as part of the I.D.E.A. program (Innovation, Design, Entrepreneurship & Arts), a novel learning approach adopted by EMLYON to train future innovative entrepreneurs. bioMérieux also supports the development of research projects conducted by the French Corporate Governance Institute (IFGE).

→ bioMérieux is a founding member of the **Fondation Université Grenoble Alpes** (France) created in September 2014. The aim of this foundation is to support top-notch research projects and promote equal opportunity. Since 2015, bioMérieux has also participated in the BioHealth Computing project at Université Grenoble Alpes, which combines multidisciplinary approaches and develops interfaces between the fields of healthcare, computer engineering and mathematics. As part of this project, the Company funded 20 scholarships, providing top students in this specialization with an opportunity to pursue their studies in an international environment.

→ bioMérieux and the **INSA Lyon Foundation (National Institute of Applied Sciences)** have been partners since 2010. The Company hosts interns from the school, organizes career conferences and participates in the INSA Business Forum.

In 2017, bioMérieux employees took part in the first-ever Bike & Run race with students from top-ranking schools and universities, which provided an opportunity to interact with rising talents. bioMérieux renewed its commitment for 2018.

→ In October 2017, bioMérieux renewed its commitment to the Graduate School of Biology-Biochemistry-Biotechnology (**ESTBB**), one of the schools of the science faculty of the **Catholic University of Lyon** (France) by signing a three-year partnership. The Company has a longstanding connection with this school, and nearly 130 employees are ESTBB graduates. Since 2008, a representative of the bioMérieux Human Resources Department has been a member of ESTBB's Excellence Council.

→ In the United States, bioMérieux and the **University of North Carolina** are partners. The Company sponsors the Biomanufacturing Training and Education Center (BTEC) and awards scholarships to two students annually.

At its site located in St. Louis, Missouri, bioMérieux hires interns from **Washington University** and gives scholarships to students selected from three state universities. Management teams maintain close ties with these institutes of higher education, facilitating the recruitment of recent graduates to join bioMérieux teams.

### WITH RESEARCH INSTITUTES

Since it was founded, bioMérieux has always placed great importance on international multidisciplinary, public and private sector collaborations with academic research organizations, the medical and scientific community, and cutting-edge biotech companies.

→ In November 2017, bioMérieux entered into a research partnership in Brazil with the **São Paulo Research Foundation (FAPESP)**, the **Institute of Tropical Medicine** and the **Faculty of Medicine of the University of São Paulo** to combat the complications associated with dengue, chikungunya and Zika infections within the scope of the ARBOBIOS project. The research program will involve at least 2,000 patients and a research team of 20 scientists.

→ In October 2016, bioMérieux, **BIOASTER** (the French Technology Innovation Institute in Microbiology), the **College of Industrial Physics and Chemistry of the city of Paris** (ESPCI), **GSK**, **Lyon Civil Hospitals** and **Sanofi** combined their expertise to fight against sepsis through a research program named REALISM (REAnimation Low Immune Status Markers). Hosted by BIOASTER and the joint research laboratory bioMérieux-HCL, at the Édouard Herriot Hospital in Lyon, this project aims to improve the management for patients presenting a high risk of sepsis.

When the project reaches completion in late 2018, the results will allow industrial partners to develop diagnostic and therapeutic solutions for sepsis.

→ In May 2017, the research program ANTOINE (biomarkers to differentiate bacterial from viral infections) was launched by the **bioMérieux-HCL** joint research laboratory at the Lyon Sud Hospital. This project, which contributes to the fight against antimicrobial resistance, focuses on the diagnosis of severe bacterial infections in children presenting to the Emergency Department.

→ As a partner of the **Pasteur Institute** since 2010, bioMérieux is taking part in a project to combat artemisinin resistance in the treatment of malaria, as well as improving the diagnosis of Chagas' disease.

### WITH ASSOCIATIONS

bioMérieux implements a policy to support the employment of young people facing hardship and promotes equal opportunity through partnerships with French associations.

→ Since 2007, bioMérieux has been one of the main partners of the association **Sport dans la Ville**, which aims to help young people find their place in society and the working world through sport. The Company's commitment takes the form of mentoring and providing young people with opportunities to gain professional experience.

In 2017, bioMérieux participated in the acquisition of a retrofitted school bus (Apprenti'Bus) to help the Sport dans la Ville association strengthen its programs by going from city to city to provide educational support and promote professional inclusion.

→ Since 2014, bioMérieux has been a partner of **Institut Télémaque**, which provides schooling and homework support for youngsters from 7<sup>th</sup> grade through high school graduation. For the 2016-2017 school year, the Company funded in-house tutors who accompanied 16 young people selected by Institut Télémaque.

## 2. COMMITTED TO OUR WORKFORCE

The men and women who work for bioMérieux are the heart of our business. Our Company, owned by the founding family, believes that economic performance is not meaningful unless it is combined with social performance.

Today, with 70% of our workforce located in France and the United States, we focus our actions on these two countries as the drivers and reference of the social responsibility policy that bioMérieux seeks to apply to all employees worldwide.

### HELPING EACH INDIVIDUAL TO SUCCEED AND DEVELOP THE SKILLS



At bioMérieux, training is provided by bioMérieux teams as well as by Mérieux Université. This corporate university was created in 2014 to support the development of the employees of the companies that are part of Institut Mérieux. It also ensures the transmission of a strong entrepreneurial culture and helps build bridges within the Group. The University's training teams organize programs in three regions: America, Europe-Middle East-Africa and Asia Pacific.

#### ORGANIZATIONAL EFFECTIVENESS

→ Mérieux Université also works with bioMérieux teams during team-building exercises designed to enhance the organization's collective performance while helping to transform and improve the ways teams work together.

In 2017, 1,332 training initiatives took place in the form of personalized team building activities.



“ The Fit for the Future training was a wonderful opportunity to boost my career and build my leadership. It also reminded me how important it is to encourage our teams in taking measurable risks and to not be driven by the fear of failure, from which we can always grow and come back stronger. It was also the chance to meet colleagues coming from all entities of Institut Mérieux and to discover the diversity of our Group. We are united by one common mission and serving more than a Company: serving public health in a Company with a true family spirit and a culture.”

**DANA SAIF**  
Associate Director for Clinical Product Surveillance  
BIOFIRE® FILMARRAY® activities

#### MANAGEMENT AND LEADERSHIP

##### New Leader Induction

→ This training program for newly recruited managers fosters the development of a shared management culture while facilitating a successful transition. Since it was started in 2015, it has been an added feature in the Company's attractiveness. In 2017, 46 people participated in the program.

##### Fit For the Future

→ This week of intensive training is a genuine talent booster, bringing together employees to work on topics that are of key interest to bioMérieux. They also attend presentations by renowned speakers from outside the Company. After six months, participants present a project for validation by the Management Committee and implementation of actions plans across the Company. In 2017, 23 employees took part in the third edition of this training program.

##### Program GMs & Cluster Heads

→ The GMs & Cluster Heads seminar was organized for subsidiary and cluster directors for the first time in May 2016. This training seminar is designed to communicate the Company's strategy, address the challenges of this function, build a community of practices and gather participants' insights and feedback about selected cross-functional initiatives. This seminar was held again in 2017.

“ In 2017, we set up the “Managing Differently” program with Mérieux Université because we wanted to give managers an additional management model to follow, beyond the traditional approach. The program is designed to foster dialogue between managers and their teams, to encourage discussion about expectations and mutual recognition as part of their day-to-day jobs, and to inspire a sense of initiative. The pilot phase has been very successful, and we plan to offer this training program to 12 technical management teams at the Craponne site in 2018.”

**ALAIN GIOVINAZZO**  
Site Manager, Craponne (France)

## EMPLOYEE SKILLS TRAINING

Training covering numerous sectors and functions is designed to improve employees' skills in line with the demands of their jobs and customer needs.

→ **SALES:** A new inter-regional commercial training program for sales forces and their managers addresses sales techniques, sales force management and ways to engage in dialogue with clinicians.

→ **SUPPLY CHAIN:** In partnership with Mérieux Université and the Rennes School of Business (France), bioMérieux Supply Chain teams have developed a six-module training program open to all Company employees. The Supply Chain Academy aims to develop skills, identify future talent and earn market recognition for the bioMérieux Supply Chain as a key player that satisfies customers.

→ **MARKETING:** "Marketing 4 Impact" has been launched for global marketing teams. This training program revisits the position and the role of marketing, especially the connection with R&D and local marketing.

→ **FINANCE:** Sales teams learn about the financial approach to commercial contracts.

→ **ETHICS, COMPLIANCE AND CYBERSECURITY:** Training for all employees about information security aims to improve data protection with an emphasis on each individual's responsibility and the importance of following good practices. More targeted modules cover issues specific to employees in areas such as finance, for example.

## SCIENTIFIC TRAINING

Two types of events provided an opportunity for in-depth discussion of scientific topics.

→ "bioMérieux Days" were organized 4 times in 2017 with a focus on organ transplants, tropical diseases, infertility, and antibiotic resistance in animals.

→ Two Institut Mérieux Encounters were held in 2017: one about India and the public health challenges it faces, and the other about microbiota.

“ Six years ago, the Industrial Microbiology Unit of bioMérieux created the position of key account manager in order to better serve global clients. Today this approach has become a major area for development thanks to the lasting collaborations and partnerships that have been set up. Our success will depend on our ability to identify the challenges facing our customers in industry, today and tomorrow, and on being able to constantly improve our service offering. Logistic services are a key component, and the Supply Chain Academy training facilitated discussions on our customers' needs to ensure the continuity of their supplies.”

→ **LAURENCE GAUTHIER**

Key Account Manager for customers in the pharmaceutical industry

“ The CQP (professional qualification certificate) training for line operators gave me a new approach and a broader dimension to my job.”

→ **BOHDAN RADAI**

Production Technician, Bottle Filling and Lyophilization

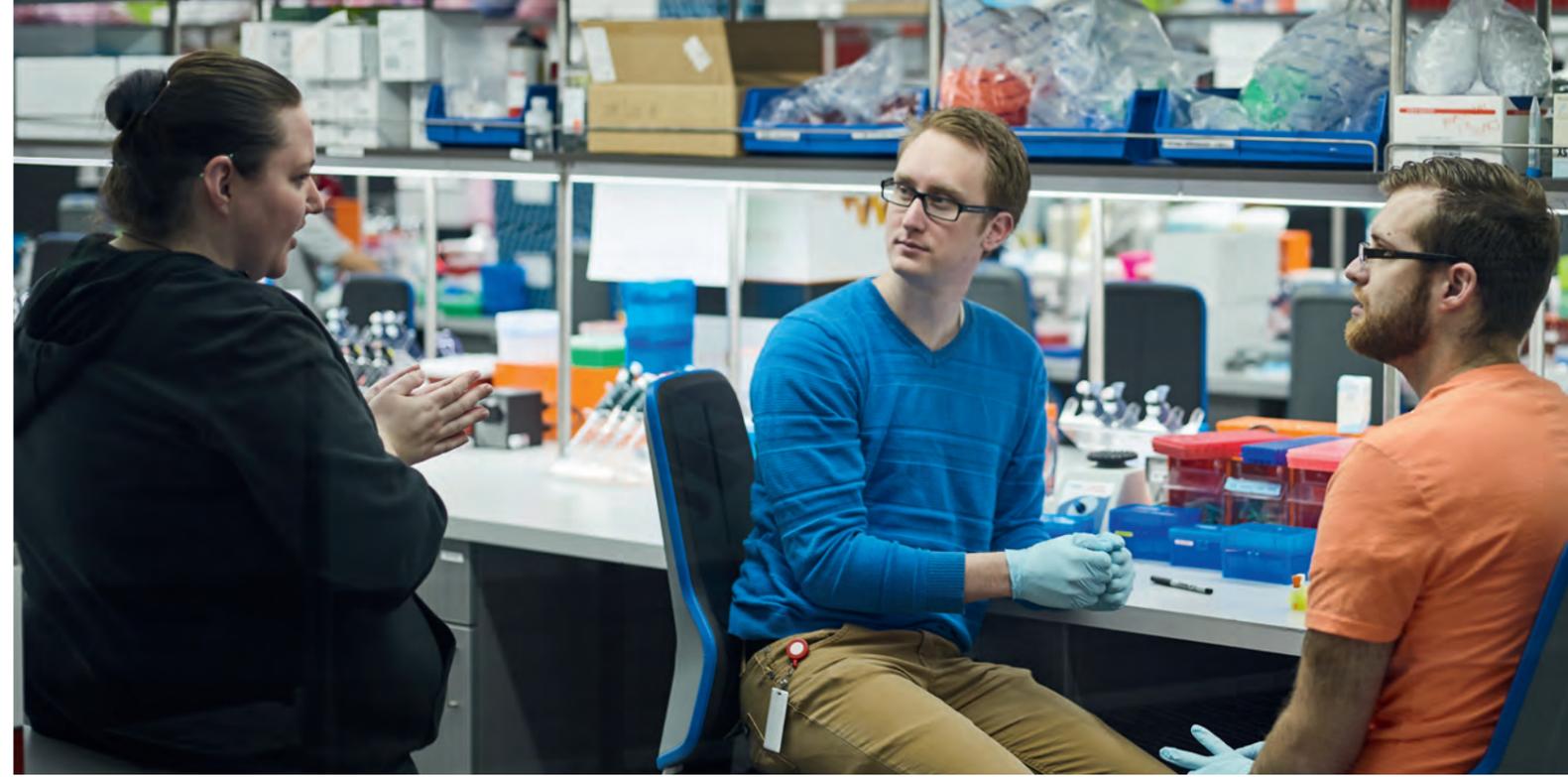
A total of **188,625** hours of training were provided in 2017

**30%** took place through e-learning, representing 5% of all training hours

## A NEW TRAINING PLATFORM

In April 2017, Mérieux Université coordinated the launch of the Learning Portal, which provides a personalized portfolio for each employee showing available courses (face-to-face training, e-learning, mixed classes combining both, video training, and so on).

The platform includes a feature to create communities to establish connectivity among trainers, managers, Human Resources representatives and learners.



## PROMOTING PROFESSIONAL DEVELOPMENT AND WELL-BEING AT WORK



## THE QUALITY OF SOCIAL DIALOGUE

→ Since it was founded, bioMérieux has been highly committed to the quality of social dialogue and works in close concertation with social partners and employee representatives, who are involved in numerous pivotal topics for the Company. Some 15 meetings of the Central Works Council are held each year, while the legal requirement is just two meetings.

Over the last six years in France, nearly 70 collective agreements have been signed in France with labor unions. Around 80% of these were signed unanimously, a clear indication of the quality and effectiveness of social dialogue.

## SEVEN COMPANY-WIDE AGREEMENTS WERE UNANIMOUSLY SIGNED BY THE LABOR UNIONS IN 2017

- Mandatory Annual Negotiations for 2017 on compensation and working hours
- Forward-looking skills management and professional training agreement in France
- Agreement to renew the European Works Council
- Disability Policy Agreement
- Agreement on compliance and agreement on medical expenses
- Gender Equality Agreement
- Agreement to establish an additional incentive payment for 2016

## RENEWAL OF THE EUROPEAN WORKS COUNCIL

→ The main purpose of the five-year European Works Council agreement signed in 2017 is to renew the Council, expand its scope, and clarify its composition and operations. The Council is made up of bioMérieux management and 11 employee representatives from the legal entities of bioMérieux France, Italy, Spain and Germany and may integrate employee representatives from other European subsidiaries.

## AGREEMENT ON FORWARD-LOOKING SKILLS MANAGEMENT AND PROFESSIONAL TRAINING

→ In May 2017, in France, an agreement on forward-looking skills management and professional training was signed for a three-year period. It applies to the 3,600 employees in France and includes measures to adapt skills in line with the needs of the Company's functions and organizational structure to further develop internal mobility, strengthen personalized support to accompany organizational changes, and ensure improved job retention and more efficient career management.

**10,400** employees in late 2017 (+6% compared to 2016)

**50%** of permanent contract positions filled through internal mobility\*

**48%** of employees are women\*. In France, 56% of employees are women

**43%** of management positions in France are held by women\* et 37% globally are held by women

\* Stable compared to 2016

## WORK-LIFE BALANCE

→ The Work-Life Balance program introduced in 2015 was expanded in 2016 to all countries in the EMEA region and continues to grow.

The teleworking policy initially implemented in France is now in place in Italy, Spain, Portugal and Russia and is being rolled out in other subsidiaries. In France, 9.65% of employees with a permanent contract worked from home in 2017. Of these, 92% were executives and 63% were women.

## INITIATIVES TO INTEGRATE EMPLOYEES WITH DISABILITIES

The Company agreement concerning employees with disabilities was renewed in late 2017 for a period of four years. In France, bioMérieux allocates €257,000 per year for initiatives to hire, integrate and train people with disabilities and to support job retention by adapting workstations, raising awareness and training people involved in integrating employees with disabilities.

Employment rate of people with disabilities in 2017:

**5.84%**\*

\* Compared with 5.86% in 2016

## INITIATIVES IN FRANCE IN 2017

- A recruitment day devoted to people with disabilities at all Rhône-Alpes sites
- Collaboration with sheltered-employment companies across all French sites
- "Handibio" days at the Marcy, La Balme/Saint-Vulbas and Verniolle sites
- Targeted training for Disability correspondents and some managers
- Financing means of disability compensation and investments in production tools to support the job retention of employees with disabilities

## GENDER EQUALITY

→ The first three-year gender equality agreement dates back to 2003. In 2017, a new agreement was signed for three years covering the period 2018-2020.

In March 2017, the Women Ready for Leadership Diversity (WoRLD) internal network organized Diversity Week, inviting employees in France to take part in a "serious game" designed to raise awareness about the impact of stereotypes. Sixteen workshops were held at French sites.

In October 2017, the Montcelard Estate, near Lyon, hosted the second edition of the JUMP Forum in Lyon, in partnership with the JUMP Association. Some 230 participants attended the Forum, which was organized in cooperation with the WoRLD network on the theme of "Professional Equality: Beyond good intentions!"

## 2 NEW DIRECTORS

On May 30, 2017, the General Meeting of Shareholders of bioMérieux approved the appointment of 2 independent directors: Fanny Letier and Marie-Paule Kieny. The bioMérieux Board of Directors now comprises 10 directors, including 4 women, in compliance with the law concerning gender equality on boards of directors and supervisory boards.

## HIGH RANKINGS FOR BIOMÉRIEUX IN FRENCH AND INTERNATIONAL SURVEYS

A report published in April 2017 by the NGO Equileap ranked bioMérieux 7<sup>th</sup> among French companies for the promotion of gender equality in the workplace. The Company was listed in 39<sup>th</sup> place out of 3,000 international companies undergoing assessment.





## THE IMPORTANCE OF HEALTH AND QUALITY OF LIFE IN THE WORKPLACE

bioMérieux pays careful attention to the health of its workforce. All employees are covered by health insurance (national, private, or both).

Sites promote healthy living, for example by making sports facilities available to employees or subsidizing the cost of a gym membership, or by covering seasonal flu vaccination.

### Health awareness in the United States

→ Our North American sites have access to a pilot healthcare and health education program. A medical center for employees and their families in St. Louis, Missouri, provides medical check-ups, early cancer screening and medical and nutritional advice delivered by professionals, while respecting healthcare confidentiality and privacy.

Occupational accidents are reported and analyzed each month by the Management Committee, and the information is disseminated within the Company. bioMérieux has set a target to achieve an occupational accident rate of less than or equal to 1.6 by 2020.

### Complementary health insurance and pension agreement

→ Discussions were held to determine compliance conditions for complementary health insurance and pension coverage as of January 1st, 2018, with the introduction of a "responsible contract," which represents an important issue for the 3,600 employees of bioMérieux in France since it concerns healthcare coverage and purchasing power.

The agreement improves the health expenses guarantee and reduces copayments.



### Prevention of psychosocial risks

→ Preventing psychosocial risks among employees is a major focus of the Human Resources policy.

The internal training program in Europe was enriched with a day-long training module targeting managers on "How to prevent exhaustion and take care of your employees." In France, a health in the workplace agreement was signed with labor union representatives.

### "Best Place to Work" approach

→ In late 2016, the EMEA "Best Place to Work" program was launched to drive employee engagement, development and motivation.

A Pulse Survey was conducted across all commercial subsidiaries in the EMEA region to measure employee engagement and develop actions plans for 2018. The participation rate was strong (74%) and the survey results highlighted several key findings. For instance, 91% of employees stated that they work in a trusting relationship with their manager.

Based on suggestions from employees, in 2017 initiatives were rolled out over the course of the year on a wide range of topics: wellbeing, working conditions, celebrations and events, communication, career and professional development, and corporate social responsibility.

### Signing the Cancer and Employment Charter

→ On November 15, 2017 at the National Cancer Institute (INCa, Paris), bioMérieux signed the Cancer and Employment Charter, which lists 11 commitments to improve support for employees who are affected by cancer and to promote health.

### A new corporate concierge service

→ A concierge service opened in November 2017 at the Marcy l'Étoile and Craponne sites in France. Financed by bioMérieux, it provides practical solutions for employees at preferential rates for services such as dry cleaning, shoe repair, vehicle maintenance, administrative assistance, mailing and postage, public transportation, home-based help, etc.

### 3. COMMITTED TO RESPECTING THE ENVIRONMENT

In 2016, bioMérieux introduced Vision 2020, the policy on which we base our commitment to reach ambitious objectives to protect the environment and ensure workplace health and safety at all sites where we operate.

Vision 2020 is aligned with the Company's strategy, and monitored and managed by a global Health, Safety and Environment Committee.

#### UPDATE OF VISION 2020 OBJECTIVES IN 2017

→ Following 2016 and 2017 results that exceeded expectations, we raised our energy consumption and waste reduction objectives. Additionally, we will begin assessing reductions in water consumption.

#### OBJECTIVES\*

20% reduction in water consumption

20% reduction in energy consumption

25% reduction in waste

30% reduction in the frequency of lost-time accidents

ISO 14001 and OHSAS 18001 certification of all industrial sites

Implementation of an energy management system at the main French sites

\* In comparison to 2015



### REDUCING THE ENVIRONMENTAL IMPACT OF MANUFACTURING DURING THE LIFE CYCLE



The product life cycle covers the initial product idea during research and development through to its decline and the management of the end-of-life phase. For bioMérieux, it is extremely important to limit the environmental impact of the Company's activities.

→ For several years now, the Company has applied an eco-design approach to take on board the environmental aspects of the product life cycle during the development processes. This approach prescribes restraint in the use of materials in a broad sense to manufacture our diagnostic systems.

In 2017, two pilot programs of the in-house methodology were organized for two ongoing developments before applying this methodology to all new projects.

Adjustments made during product development have a very practical impact. "Designing a product that will require less refrigeration during storage will have a significant impact on reducing energy consumption during its life cycle," said Bertrand Gibert, Head of Corporate HSE (Health Safety Environment).



## CONNECTING OUR SYSTEMS WITH VILINK®



### Active involvement at our sites

→ In 2017, the sites of Tres Cantos (Spain) and La Balme (France) both received ISO 14001:2015 certification. *"This new standard encourages us to take into account the environmental impact during the entire life cycle of our products, and not just during production processes,"* added Bertrand Gibert.

Our distribution centers also follow this approach. For example, thanks to a program set up at the international distribution center in Saint-Vulbas (France), in 2017 energy consumption levels were maintained at 2007 levels, even though during the same period the site's sales activity increased by 18%.

### Supply Chain joins the effort

→ Transporting products to our customers is another area where it is possible to limit environmental impact during the product life cycle. The Company operates in more than 150 countries through 43 subsidiaries and a network of distributors, meaning that reagents, instruments and spare parts must be delivered to a multitude of destinations. *"In 2017, we began using maritime transportation instead of air transportation for certain shipments,"* said Grégory Debuchy, Supply Chain Vice-President. *"This approach, which is designed to reduce our carbon footprint, has been adopted for shipments from France to China, India and the United States and Australia."* Transportation by sea represented 13% of all shipments, compared to 10% in late 2016.



## The Environment

ISO 14001 CERTIFICATIONS\*  
 3 commercial subsidiaries  
 •  
 7 bio-industrial sites  
 (3 with the new ISO 14001:2015)

\* By late January 2018

## Occupational Health & Safety

OHSAS 18001 CERTIFICATIONS\*  
 7 bio-industrial sites

\* By late January 2018

## Our indicators\*

WATER CONSUMPTION:  
 CONSTANT  
 (Compared to 2016)  
 •  
 ENERGY CONSUMPTION:  
 6% REDUCTION  
 (Compared to 2016)

\* In relation to sales

### Benefits for customers

→ bioMérieux has introduced an ambitious program to provide remote maintenance of our instruments, which considerably reduces travel by technicians who provide remote assistance for some maintenance operations, customer services and IT updates of systems.

Using the VILINK® application, Company teams are working to ensure connectivity for 90% of identified priority systems\* by late 2019.

### Studying the impact of logistics

→ Within the scope of the Vision 2020 HSE objectives regarding logistics, pilot initiatives with Company suppliers were organized in 2017 and are planned in 2018 to assess alternative means of transportation, track emissions and monitor operational effectiveness along the logistics chain.

\* VITEK® 2, VITEK® MS, MYLA®, VIDAS® 3, BACT/ALERT® VIRTUO®, VIGIGUARD®, OBSERVA®

# 4. COMMITTED TO ETHICS IN BUSINESS

As an international industrial firm, bioMérieux is exposed to risks, some of them directly connected to our business activity. We implement internal rules and procedures to protect the Company and ensure employees have the necessary tools to anticipate and manage such risks.



## 2017 PRIORITIES

→ Particular attention was focused on preparing the new regulation on the protection of patient data at the European level. The General Data Protection Regulation (GDPR) took effect on May 25, 2018, when the new Sapin II Law will become enforceable and existing processes will be strengthened.

## 4 PRIORITY AREAS

Preventing corruption

Securing the distribution network

Preventing conflicts of interest

with healthcare professionals

Applying export regulations

## TARGETED TRAINING, A PRIORITY

→ Training is one of the primary ways to build awareness among all employees about international rules and in-house procedures to promote respect for ethics and compliance.

A mandatory annual training program is organized for all employees, in addition to modules specific to their function and risk exposure. Within the first few months of joining the Company, new hires receive training on the Global Code of Conduct, the Corruption Prevention Manual and the conflicts of interest policy. Each year, employees must validate a certificate of compliance with the rules of the Code of Conduct.

In 2017, more than 15,000 on-line training modules were assigned to employees across all subsidiaries.

## PROTECTION OF PERSONAL DATA AND PATIENT DATA

→ bioMérieux has launched a compliance program to prepare for the new regulations concerning the protection of personal data, especially the European General Data Protection Regulation (GDPR).

It has also set up a network of personal data privacy representatives covering all Company sites and subsidiaries and the global functions. The network serves as the interface between the Global Data Privacy Officer and the business entities, particularly to anticipate compliance with the GDPR.

Every employee accessing personal data will be trained and will adhere to the principles of the regulation.

## A GLOBAL CAMPAIGN TO PROMOTE THE CODE OF CONDUCT

A worldwide training and awareness campaign was organized to support the new edition of the bioMérieux Global Code of Conduct.

It consisted of:

- Training on content for all employees;
- Publishing the Code on the bioMérieux corporate website and intranet;
- Issuing reminders about the Code during Ethics & Compliance training.

## AN ETHICS HOTLINE FOR ALL SUBSIDIARIES

Any employee who has an ethics question or concern may contact their regional Compliance Officer. In addition, a local telephone alert system allows employees to speak with someone in the local language, and a dedicated website is available to all employees worldwide to report situations involving an alert. The system was introduced in France in 2014 and has since been rolled out in the 43 countries where bioMérieux operates.



# APPENDIX

## THE PRINCIPLES OF THE UNITED NATIONS GLOBAL COMPACT

### PRINCIPLES RELATED TO HUMAN RIGHTS

- 1** bioMérieux and its employees are committed to support and respect the protection of internationally proclaimed human rights
- 2** bioMérieux and its employees are committed to make sure they are not complicit in human rights abuses

### PRINCIPLES RELATED TO LABOR

- 3** bioMérieux and its employees are committed to uphold the freedom of association and recognize the right to collective bargaining
- 4** bioMérieux and its employees are committed to contribute to the elimination of all forms of forced and compulsory labor
- 5** bioMérieux and its employees are committed to contribute to the abolition of child labor
- 6** bioMérieux and its employees are committed to contribute to the elimination of discrimination in respect of employment and occupation

### PRINCIPLES RELATED TO THE ENVIRONMENT

- 7** bioMérieux and its employees are committed to support a precautionary approach to environmental challenges
- 8** bioMérieux and its employees are committed to undertake initiatives to promote greater environmental responsibility
- 9** bioMérieux and its employees are committed to encourage the development and diffusion of environmentally-friendly technologies

### PRINCIPLE RELATED TO ANTI-CORRUPTION

- 10** bioMérieux and its employees are committed to work against corruption in all its forms, including extortion and bribery



## CORPORATE GOVERNANCE

### BOARD OF DIRECTORS

As of December 15, 2017, the Board is chaired by Alexandre Mérieux.

The Board of Directors, which met 6 times over the course of 2017, is comprised of 10 members:

- ➔ **Alexandre Mérieux** • Chairman and CEO, bioMérieux
- ➔ **Philippe Archinard** • Chairman and CEO, Transgene
- ➔ **Jean-Luc Belingard** • Vice President, Institut Mérieux, in charge of strategy and institutional relations
- ➔ **Harold Boël** • CEO, Sofina (Belgium)
- ➔ **Philippe Gillet** • Chief Scientific Officer, SICPA SA (Switzerland) and Ph.D of Earth and Planet Sciences, École Polytechnique Fédérale de Lausanne (Switzerland)
- ➔ **Marie-Hélène Habert** • Director of Communication and Patronage, Dassault Group
- ➔ **Marie-Paule Kieny** • Research Director, INSERM; formerly, Assistant Director General, World Health Organization
- ➔ **Agnès Lemarchand** • Administrator, various companies
- ➔ **Fanny Letier** • Executive Director - Directorate SME own funds & Coordination accompaniment, BPI France
- ➔ **Michele Palladino**

**In 2017, Alain Mérieux, Chairman and CEO of Institut Mérieux, has been appointed Founding President of bioMérieux.**

## COMMITTEES OF THE BOARD OF DIRECTORS

### ➔ The Audit Committee

It is comprised of Mrs Agnès Lemarchand, Mr Philippe Archinard and Mr Harold Boël, its chairman. The Committee met 7 times in 2017.

### ➔ The Human Resources, Nominations and Compensation Committee

It is comprised of Mrs Marie-Hélène Habert, Mr Jean-Luc Belingard and Mrs Fanny Letier, its chairman. The Committee met 2 times in 2017.

### ➔ The Strategy Committee

The Committee, created in 2017, is comprised of Mrs Marie-Paule Kieny, Mr Michele Palladino, Mr Philippe Gillet and Mr Jean-Luc Belingard, its chairman.

## SENIOR MANAGEMENT

### ➔ MANAGEMENT COMMITTEE

The Management Committee is responsible for implementing the Company's strategy decided by the Board of Directors. It meets once every three months.

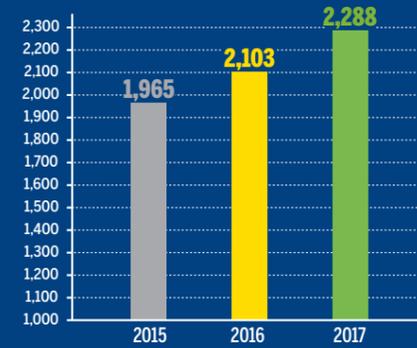
Since March 2018, it is comprised of:

- ➔ **Alexandre Mérieux** • Chairman and CEO
- ➔ **Michel Baguenault** • Executive Vice President, Human Resources and Communications and Company Secretary
- ➔ **Guillaume Bouhours** • Executive Vice President and Chief Financial Officer
- ➔ **Pierre Boulud** • Executive Vice President, ASPAC Region, Portfolio & Strategic Planning
- ➔ **Nicolas Cartier** • Executive Vice President, Industrial Microbiology Unit
- ➔ **Pierre Charbonnier** • Executive Vice President, Global Quality, Manufacturing & Supply Chain
- ➔ **François Lacoste** • Executive Vice President, Clinical Unit
- ➔ **Mark Miller** • Executive Vice President, Chief Medical Officer
- ➔ **Yasha Mitrotti** • Executive Vice President, Europe, Middle East, Africa Region & Global Commercial Performance
- ➔ **Alain Pluquet** • Executive Vice President, Chief Data Officer
- ➔ **Randy Rasmussen** • Executive Vice President, Molecular Biology
- ➔ **Kirk Ririe** • Executive Vice President, Chief Innovation Officer
- ➔ **Stefan Willemsen** • Executive Vice President, Americas Region

# KEY FIGURES

## SALES

(in millions of euros)



Sales amounted to €2,288 million in 2017, versus €2,103 million in 2016, an increase of 10.2% at constant exchange rates and scope of consolidation.

## CONTRIBUTIVE OPERATING INCOME BEFORE NON-RECURRING ITEMS\*

(in millions of euros)



In keeping with the set target, the contributive operating income before non-recurring items was driven by the organic growth in sales. It was up by 12.4% compared to 2016, to reach €335 million, or 14.6% of sales.

\* Contributive operating income before non-recurring items corresponds to operating income before non-recurring BioFire acquisition and integration costs and before accounting entries relating to the company's purchase price allocation.

## NET INCOME FOR THE PERIOD

(in millions of euros)



Net income of consolidated companies for the year amounted to €238 million, up by 33% compared to 2016. It represented 10.4% of sales.

## FREE CASH FLOW\*\*

(in millions of euros)

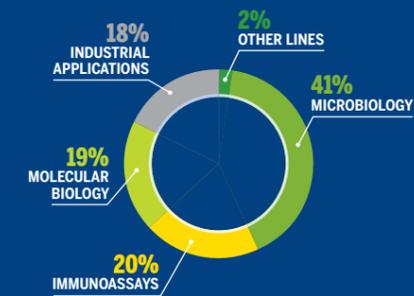


Free cash flow generation amounted to €164 million in 2017, versus €85 million in 2016 and benefited from the increase of the contributive operating income before non-recurring items while capital expenditures decreased.

\*\* Cash flow before acquisitions of companies, divested operations and dividends.

## BREAKDOWN OF SALES

by application

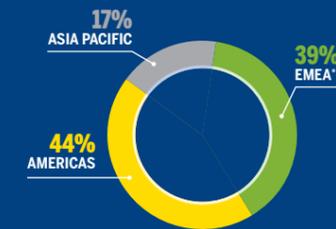


Approximately 60% of sales were generated in clinical and industrial microbiology, two areas where bioMérieux is the world leader. In 2017, sales growth in molecular biology (19% of sales in 2017 compared to 15% in 2016) was driven by the success of the BIOFIRE® FILMARRAY® line.

Supported by the commercial strength of the VITEK® and BACT/ALERT® lines, microbiology represented 41% of revenue, up by 6.7%.

## BREAKDOWN OF SALES

by geographical region

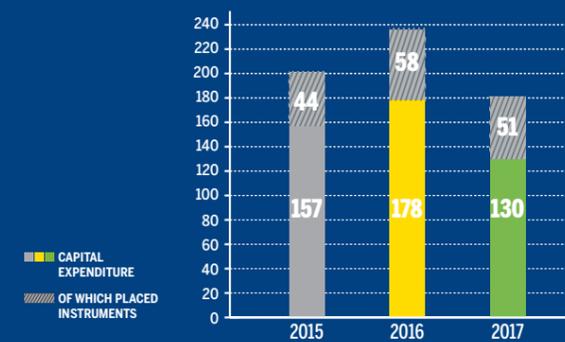


The Group's growth was chiefly driven by strong sales in the Americas region (representing 44% of sales in 2017 compared to 42% in 2016), especially in the BIOFIRE® FILMARRAY® line.

\* Europe, Middle East, Africa.

## INVESTMENTS

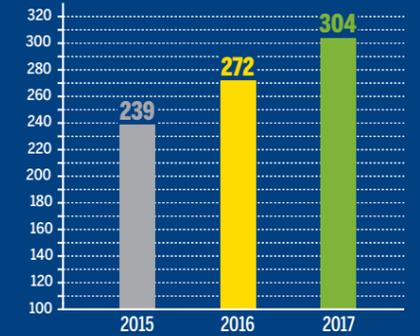
(in millions of euros)



The capital expenditures made over the year amounted to €181 million, the results of the industrial investment strategy intended mainly to increase capacity and productivity of production facilities. The total capital expenditures for the year represented 8% of sales.

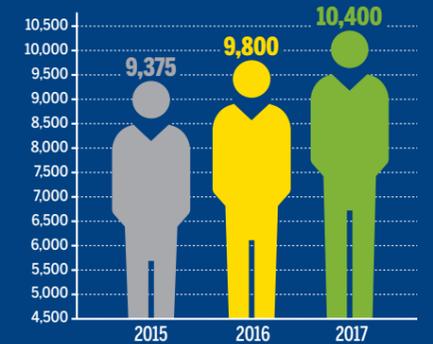
## R&D EXPENSES

(in millions of euros)



Continuing its innovation efforts, the Group invested €304 million in research and development in 2017, or 13.3% of sales. This increase reflects the intensification of activities associated with the BIOFIRE FILMARRAY® line.

## WORKFORCE AS AT DECEMBER 31\*\*

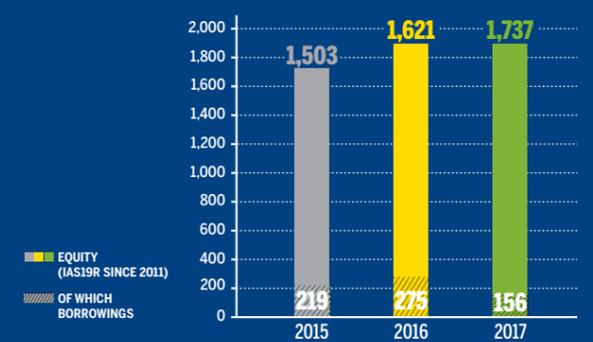


Changes in the workforce in 2017 reflect the strengthening of BioFire Diagnostics' industrial and commercial teams to support the growth of the BIOFIRE® FILMARRAY® line.

\*\* Full-time equivalent.

## CHANGES IN THE FINANCIAL POSITION

(in millions of euros)



Net debt stood at €156 million at the end of the year, representing only 9% of equity. This leaves a high degree of flexibility to promote the Group's strategic ambitions.

# FINANCIAL TABLES

## CONSOLIDATED INCOME STATEMENT

In € millions	12/31/2017	12/31/2016
<b>SALES</b>	<b>2,288.2</b>	<b>2,103.2</b>
Cost of sales	-1,076.4	-1,002.5
<b>GROSS PROFIT</b>	<b>1,211.8</b>	<b>1,100.7</b>
<b>OTHER OPERATING INCOME</b>	<b>31.2</b>	<b>38.5</b>
Selling and marketing expenses	-447.5	-402.1
General and administrative expenses	-156.4	-167.4
Research and development expenses	-304.4	-271.9
<b>TOTAL OPERATING EXPENSES</b>	<b>-908.3</b>	<b>-841.4</b>
<b>CONTRIBUTIVE OPERATING INCOME BEFORE NON-RECURRING ITEMS</b>	<b>334.7</b>	<b>297.8</b>
BioFire acquisition fees and amortization expense <sup>(a)</sup>	-18.2	-25.2
<b>OPERATING INCOME BEFORE NON-RECURRING ITEMS</b>	<b>316.5</b>	<b>272.6</b>
Other non-recurring income and expenses from operations, net	-1.6	9.9
<b>OPERATING INCOME</b>	<b>314.9</b>	<b>282.5</b>
Cost of net debt	-16.2	-17.6
Other financial income and expenses, net	-6.2	-5.6
Income tax	-54.5	-79.8
Share in earnings (losses) of equity-accounted companies	-0.4	-0.2
<b>NET INCOME OF CONSOLIDATED COMPANIES</b>	<b>237.6</b>	<b>179.2</b>
Attributable to non-controlling interests	-0.6	0.1
<b>ATTRIBUTABLE TO OWNERS OF THE PARENT</b>	<b>238.1</b>	<b>179.1</b>
Basic earnings per share	€ 2.02	€ 4.55 <sup>(b)</sup>
Diluted earnings per share	€ 2.02	€ 4.55 <sup>(b)</sup>

(a) corresponds to the acquisition and integration costs of BioFire and accounting entries relating to the company's purchase price allocation  
(b) based on the number of shares at the period-end: 39,453,740 shares.

## CONSOLIDATED BALANCE SHEET

ASSETS (In € millions)	12/31/2017	12/31/2016
Intangible assets	430.7	492.6
Goodwill	442.7	470.6
Property, plant and equipment	711.4	734.5
Non-current financial assets	57.9	36.9
Investments in equity-accounted companies	0.1	0.5
Other non-current assets	14.1	18.0
Deferred tax assets	51.6	92.8
<b>NON-CURRENT ASSETS</b>	<b>1,708.5</b>	<b>1,845.8</b>
Inventories and work-in-progress	380.3	404.4
Trade receivables	460.1	465.8
Other operating receivables	75.1	79.8
Current tax receivables	36.1	25.7
Non-operating receivables	15.7	28.8
Cash and cash equivalents	312.1	178.6
<b>CURRENT ASSETS</b>	<b>1,279.4</b>	<b>1,183.0</b>
<b>ASSETS HELD FOR SALE</b>	<b>2.1</b>	<b>0.0</b>
<b>TOTAL ASSETS</b>	<b>2,990.0</b>	<b>3,028.8</b>
EQUITY AND LIABILITIES (In € millions)	12/31/2017	12/31/2016
Share capital	12.0	12.0
Additional paid-in capital and reserves	1,487.5	1,428.0
Attributable net income for the period	238.1	179.1
<b>EQUITY ATTRIBUTABLE TO OWNERS OF THE PARENT</b>	<b>1,737.6</b>	<b>1,619.1</b>
<b>NON-CONTROLLING INTERESTS</b>	<b>-0.9</b>	<b>2.2</b>
<b>TOTAL EQUITY</b>	<b>1,736.7</b>	<b>1,621.4</b>
Long-term borrowings and debt	391.1	365.4
Deferred tax liabilities	103.8	167.3
Provisions	106.7	115.0
<b>NON-CURRENT LIABILITIES</b>	<b>601.5</b>	<b>647.6</b>
Short-term borrowings and debt	76.9	87.9
Provisions	34.1	36.8
Trade payables	161.3	175.6
Other operating payables	300.7	324.2
Current tax payables	24.2	37.2
Non-operating payables	54.6	98.2
<b>CURRENT LIABILITIES</b>	<b>651.8</b>	<b>759.8</b>
<b>LIABILITIES RELATED TO ASSETS HELD FOR SALE</b>	<b>0.0</b>	<b>0.0</b>
<b>TOTAL EQUITY AND LIABILITIES</b>	<b>2,990.0</b>	<b>3,028.8</b>

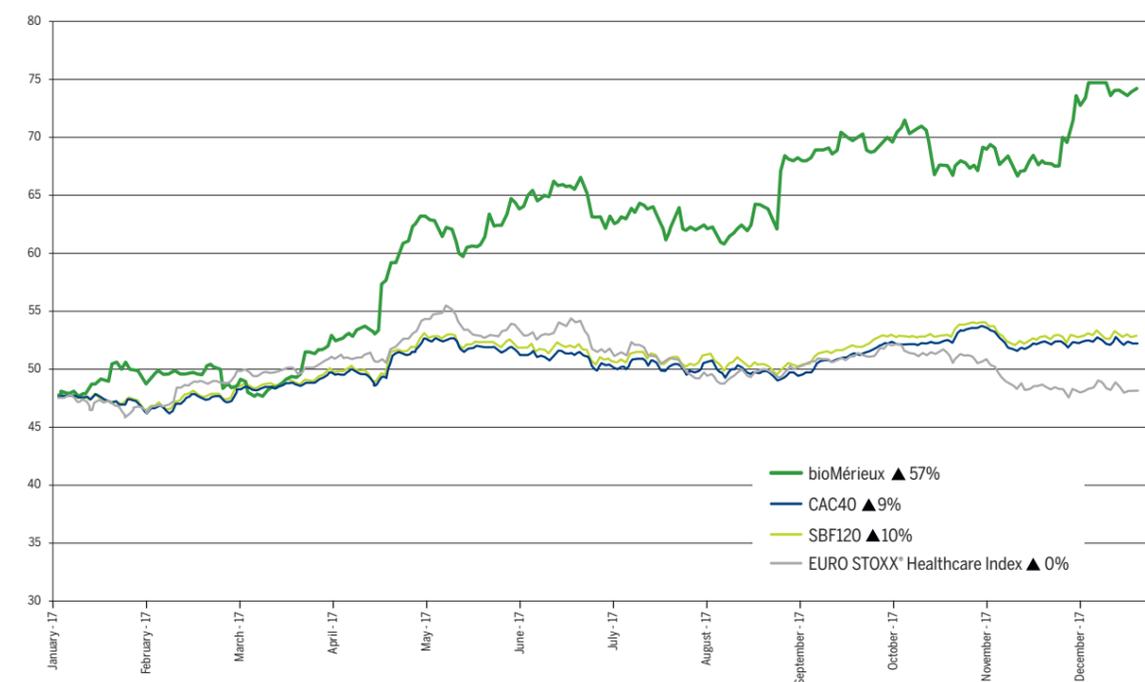
## CONSOLIDATED CASH FLOW STATEMENT

In € millions	12/31/2017	12/31/2016
<b>Net income of consolidated companies</b>	<b>237.5</b>	<b>179.2</b>
Share in earnings (losses) of equity-accounted companies	0.4	0.2
Cost of net debt	16.2	17.6
Other financial income and expenses, net	6.2	5.6
Income tax expense	54.5	79.8
Net additions to depreciation and amortization of operating items - long-term provisions	140.5	143.1
Non-recurring income and expenses, BioFire acquisition fees and amortization expense	19.9	15.3
<b>EBITDA (before non-recurring items)</b>	<b>475.2</b>	<b>440.9</b>
Other non-recurring income and expenses from operations (excluding net additions to non-recurring provisions and capital gains or losses on disposals of non-current assets)	-1.2	0.0
Other financial income and expenses, net (excluding provisions and disposals of non-current financial assets)	-6.1	-6.4
Net additions to operating provisions for contingencies and losses	5.6	12.3
Changes in fair value of financial instruments	2.3	-1.5
Share-based payment	7.5	3.5
<b>Elimination of other non-cash/non-operating income and expenses</b>	<b>8.1</b>	<b>7.9</b>
Change in inventories	-4.3	-41.1
Change in trade receivables	-25.6	-10.0
Change in trade payables	-4.1	-3.4
Change in other operating working capital	-3.8	21.8
<b>Change in operating working capital<sup>(a)</sup></b>	<b>-37.8</b>	<b>-32.7</b>
Other non-operating working capital	1.5	-3.3
Change in non-current non-financial assets and liabilities	2.0	4.3
<b>Change in working capital</b>	<b>-34.3</b>	<b>-31.7</b>
<b>Income tax paid</b>	<b>-91.5</b>	<b>-81.5</b>
<b>NET CASH FROM OPERATING ACTIVITIES</b>	<b>357.5</b>	<b>335.6</b>
Purchases of property, plant and equipment and intangible assets	-183.5	-233.0
Proceeds from disposals of property, plant and equipment and intangible assets	7.9	5.3
Purchases/proceeds from disposals of non-current financial assets, net	-14.1	8.1
Impact of changes in Group structure	9.3	-37.6
<b>NET CASH USED IN INVESTING ACTIVITIES</b>	<b>-180.4</b>	<b>-257.2</b>
Cash capital increase	0.0	0.0
Purchases and sales of treasury shares	-0.9	-14.1
Dividends paid to owners	-39.4	-39.5
Cost of net debt	-16.2	-17.6
Change in committed debt	-0.6	18.6
Change in ownership interest not resulting in a change in control	-11.5	0.0
<b>NET CASH USED IN FINANCING ACTIVITIES</b>	<b>-68.7</b>	<b>-52.5</b>
<b>NET CHANGE IN CASH AND CASH EQUIVALENTS</b>	<b>108.4</b>	<b>25.9</b>
<b>NET CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR</b>	<b>146.7</b>	<b>136.7</b>
Impact of changes in exchange rates on net cash and cash equivalents	5.4	-15.9
<b>NET CASH AND CASH EQUIVALENTS AT END OF YEAR</b>	<b>260.4</b>	<b>146.7</b>

(a) Including additions to and reversals of short-term provisions

## THE BIOMÉRIEUX SHARE

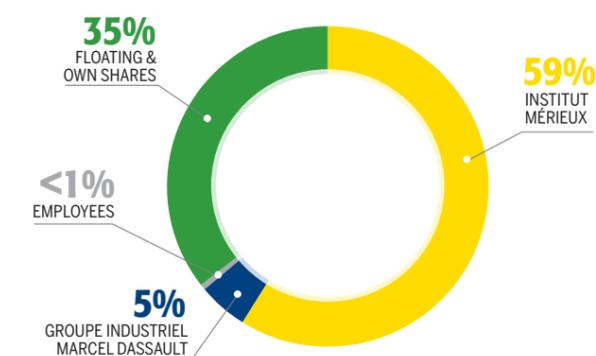
### SHARE PRICE PERFORMANCE IN 2017\*



\* Indexes rebased on bioMérieux's stock price as at 31/12/2016 (€47.30)

### BREAKDOWN OF CAPITAL

as at December 31, 2017



### 2018 CALENDAR OF EVENTS

January 23, 2018	➔	2017 Q4 business review
February 28, 2018	➔	2017 financial results
April 19, 2018	➔	2018 Q1 business review
May 17, 2018	➔	General Shareholders' meeting
July 19, 2018	➔	2018 Q2 business review
September 5, 2018	➔	2018 first-half results
October 18, 2018	➔	2018 Q3 business review

### THE BIOMÉRIEUX SHARE

Listed on July 6, 2004, the bioMérieux share is part of the following indexes: CAC Mid 60®, SBF 120®, CAC Mid & Small®, CAC All-tradable® and CAC All-Share®. In addition, bioMérieux was included in new indices during 2017, specifically MSCI France Index and STOXX® Europe 600. The Company is listed on the compartment "A" of Euronext and is eligible for the Deferred Settlement Service (SRD).

For a number of years, extra-financial rating agencies have been evaluating the CSR performance of bioMérieux and have included it in their SRI indices (Socially Responsible Investments), such as the Ethibel Forum (Ethibel Sustainability Index (ESI) Excellence Europe) which draws on the work of the ratings agency VIGE0, or FTSE Russell (FTSE4Good Index). This year, bioMérieux was included in new indices and obtained new labels (Vigeo Eiris Eurozone 120, EcoVadis, OEKOM Research, CDP).

On September 19, 2017, bioMérieux carried out a 1 for 3 stock split, dividing the par value per share by 3, thereby increasing the number of shares from 39,453,740 to 118,361,220. The information below is provided on a comparable basis and includes the number of shares following the stock split.

At December 31, 2017, the closing price for the bioMérieux share was €74.69 (€47.30 at December 31, 2016) and the Company's market capitalization was €8.8 billion. In 2017, 28,750,521 of the Company's shares were traded on Euronext (31,554,284 in 2016).

### INVESTOR RELATIONS CONTACT

Sylvain Morgeau  
Phone: +33 (0)4 78 87 22 37  
Email: investor.relations@biomerieux.com

The Reference Document approved by the AMF is available upon request or on our Web site: [www.biomerieux-finance.com](http://www.biomerieux-finance.com)

# GLOSSARY

**Antibiotic Susceptibility Testing** ■ Determines the susceptibility of a bacterium in the presence of antibiotics and classifies it as susceptible, resistant or intermediate.

**Biomarker** ■ Any indicator (nucleic acids, enzymes, metabolites and other types of molecules: histamines, hormones, proteins, etc.) present in or excreted by the body as a biological response to a disease.

**Blood culture** ■ Laboratory analysis used to detect bloodstream infections, carried out by taking a sample of venous blood, which is then cultured to reveal the presence or absence of pathogenic microbes.

**Dengue** ■ Dengue is a viral infection transmitted by the *Aedes* mosquito that causes flu-like symptoms. A person with dengue may develop life-threatening complications.

**DNA Sequencing** ■ Method used to determine the order of the nucleotide bases for a given DNA fragment.

**Ebola** ■ The Ebola virus causes severe illness that is often fatal in humans. The virus is initially transmitted to people from wild animals and then spreads from person to person. Between December 2013 and March 2016, the largest epidemic of Ebola virus disease ever observed broke out in West Africa (essentially Guinea, Sierra Leone and Liberia), causing 11,300 deaths among the 28,600 cases reported.

**Healthcare-Associated Infection (HAI)** ■ HAIs are infections occurring in a patient during the process of care in a hospital (or other healthcare facility) that were not present at the time of admission and are directly related to the care received.

**Immunoassay** ■ Diagnostic test based on an antigen/antibody reaction, enabling the detection of infectious agents (bacteria, viruses, parasites) and pathogen markers.

**In vitro diagnostics** ■ Analysis of biological samples (urine, blood, etc.) performed outside the human body.

**Malaria** ■ Malaria is a disease caused by Plasmodium parasites. According to the WHO, it continues to cause around 450,000 deaths each year worldwide. Around 40% of the global population is exposed to the disease. Resistance to antimalarial medicines makes the situation even more alarming. To date a vaccine has not been developed.

**Mass spectrometry** ■ Technique used to identify a molecule and determine its chemical structure by analyzing the mass and the charge of its ions.

**Middle East respiratory syndrome coronavirus (MERS-CoV)** ■ Middle East respiratory syndrome coronavirus (MERS-CoV) was first identified in September 2012 in Saudi Arabia and is responsible for the Middle East respiratory syndrome (MERS). In early 2018, cases of MERS had been reported in 27 countries. Among people affected by the disease, symptoms include fever, coughing and shortness of breath, as well as gastrointestinal symptoms in some cases. Approximately 35% of reported patients with MERS-CoV infection have died, according to the WHO.

**Microbiology** ■ The study of microorganisms. In the field of *in vitro* diagnostics: culturing biological, food and pharmaceutical samples in growth medium allows any bacteria that may be present to multiply. The bacteria are subsequently identified and their susceptibility to antibiotics tested in certain cases.

**Molecular Biology** ■ Technique that can detect a bacterium, virus, yeast, parasite or a biomarker through the presence of DNA or RNA genetic sequences in a sample.

**Pathogen** ■ A microbe that causes or has the potential to cause an infectious disease.

**PCR (Polymerase Chain Reaction)** ■ Molecular biology technology for *in vitro* amplification of genetic sequences, used to copy known DNA or RNA sequences in large quantities (by an order of magnitude of a billion) from an initially small quantity. This technology is particularly useful for detecting the presence of viruses.

**PCT (Procalcitonin)** ■ An early and specific host marker of a bacterial infection, PCT is useful to adapt antimicrobial prescriptions.

**Pertussis (Whooping cough)** ■ Pertussis is a highly contagious disease of the respiratory tract caused by *Bordetella pertussis*, and less commonly by *Bordetella parapertussis*, which causes coughing spells. It is an airborne infection spread by direct contact with infected individuals. The disease may become serious in pregnant women, the elderly, and infants under six months of age. Between 40 and 60 million cases of whooping cough are reported worldwide each year, causing 300,000 deaths, primarily in developing countries.

**Sepsis** ■ A serious systemic infection characterized by the presence of bacteria, fungi, viruses and parasites in the blood and combined with an inflammatory immune-reaction (host response) that can result in the rapid deterioration of the patient's general condition leading to possible organ failure.

**Syndromic approach** ■ Medical approach based on analyzing a syndrome (i.e., a set of symptoms and/or clinical signs) that uses a single test to identify the disease-causing organism(s) responsible for this syndrome, whether they are viruses, bacteria, fungi or parasites.

**Venous Thromboembolism (VTE)** ■ VTE is a condition that encompasses deep vein thrombosis (DVT) and its immediate life-threatening risk, pulmonary embolism (PE). VTE is the consequence of the formation of a blood clot in the deep veins that travels in the circulation and risks lodging in the lungs.

**Zika virus** ■ The Zika virus is transmitted by the bite of an infected *Aedes* mosquito. It recently caused an epidemic affecting several countries in Latin America, Africa and Asia, and currently it is probably spreading worldwide. Often asymptomatic, the disease may present as a moderate infection similar to dengue. Symptoms may include fever, muscle and joint pain, conjunctivitis, fatigue and headache. Skin rash is a characteristic feature of Zika. The potentially serious impact of the virus is connected to its ability to cause neurological complications and severe malformations, in particular neurological malformations in the fetus.

05-18 • 9314926 022 GB 0 • This document and / or pictures are not legally binding; modifications by bioMérieux can be made without prior notice • BIOMERIEUX, the blue logo, ARGENE, BACT/ALERT, BIOFIRE, BioNumerics, CHROMID, DIAGNOSTICS IS POWER, ETEST, FILMARRAY, MYLA, NEPHROCHECK, PIONEERING DIAGNOSTICS, RAPIDEC, R-GENE, SCANRDI, VIDAS, VIRTUO and VITEK are used, pending and/or registered trademarks belonging to bioMérieux S.A., to one of its subsidiaries or companies • B-R-A-H-M-S PCT is the property of Thermo Fisher Scientific Inc. and its subsidiaries • SBF 120 is the property of EURONEXT PARIS SA • WASP and WASPLab are the property of COPAN Italia • Any other name or trademark mentioned in this document is the property of its respective owner.

Photos: N. Bouchut, F. Dubray, C. Ganet, J.P. Mesguen, P. Tournaire, bioMérieux, Fondation Mérieux, GettyImages, iStock.

Sculpture : "Le Cavalier" from Claude Quiesse

bioMérieux S.A. 673 620 399 RCS Lyon

Printed in France on recycled paper

théra • RCS Lyon B 398 160 242



- bioMérieux ALGERIA
- bioMérieux ARGENTINA
- bioMérieux AUSTRALIA
- bioMérieux AUSTRIA
- bioMérieux BELGIUM
- bioMérieux BRAZIL
- bioMérieux CANADA
- bioMérieux CHILE
- bioMérieux CHINA
- bioMérieux COLOMBIA
- bioMérieux CZECH REPUBLIC
- bioMérieux DENMARK
- bioMérieux FINLAND
- bioMérieux FRANCE
- bioMérieux GERMANY
- bioMérieux GREECE
- bioMérieux HUNGARY
- bioMérieux INDIA
- bioMérieux ITALY
- bioMérieux JAPAN
- bioMérieux KENYA
- bioMérieux KOREA
- bioMérieux MALAYSIA
- bioMérieux MEXICO
- bioMérieux NORWAY
- bioMérieux POLAND
- bioMérieux PORTUGAL
- bioMérieux RUSSIA
- bioMérieux SERBIA
- bioMérieux SINGAPORE
- bioMérieux SOUTH AFRICA
- bioMérieux SPAIN
- bioMérieux SWEDEN
- bioMérieux SWITZERLAND
- bioMérieux THAILAND
- bioMérieux THE NETHERLANDS
- bioMérieux TURKEY
- bioMérieux UNITED ARAB EMIRATES
- bioMérieux UNITED KINGDOM
- bioMérieux USA
- bioMérieux WEST AFRICA
- bioMérieux VIETNAM