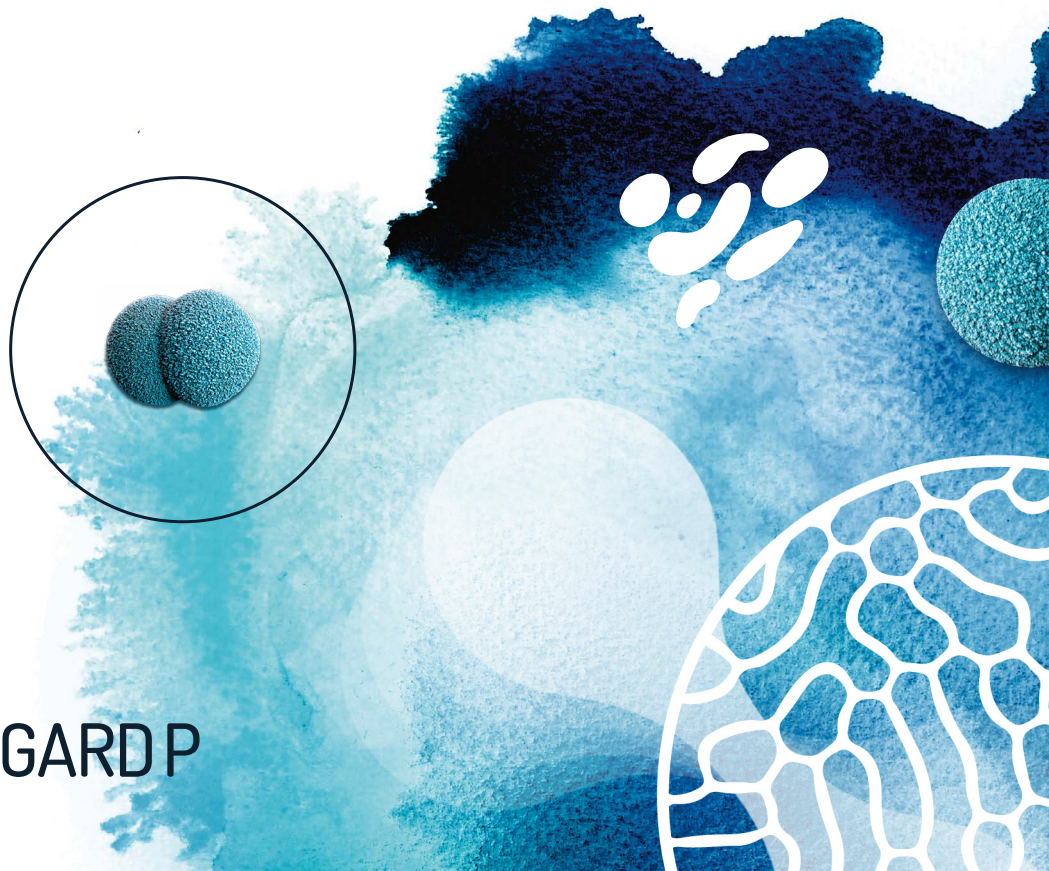
UNITING AGAINST ANTIBIOTIC **RESISTANCE**

Global Antibiotic
Research & Development
Partnership



GARD P

OUR BROCHURE

TABLE OF CONTENTS

GOAL 4

COMBATING THE ANTIBIOTIC RESISTANCE CRISIS

PARTNERS 7

GARDP NEEDS YOUR HELP

CRISIS 8

WHAT HAS CAUSED THE ANTIBIOTIC RESISTANCE CRISIS?

RESISTANCE 10

THE RISE OF DRUG-RESISTANT INFECTIONS

THREAT 11

A THREAT TO THE SUSTAINABLE DEVELOPMENT GOALS

ACTIONS. 12

GALVANIZING GOVERNMENTS TO ACT

PARTNERSHIP 18

CREATING A POWERFUL PARTNERSHIP

PRIORITIES 19

GARDP'S KEY PRIORITIES

IMPACT 20

WE ARE MAKING AN IMPACT

SUPPORT 21

THE POWER OF PARTNERSHIPS

CONTACT. 23

FOR MORE INFO

GOAL

COMBATING THE ANTIBIOTIC RESISTANCE CRISIS

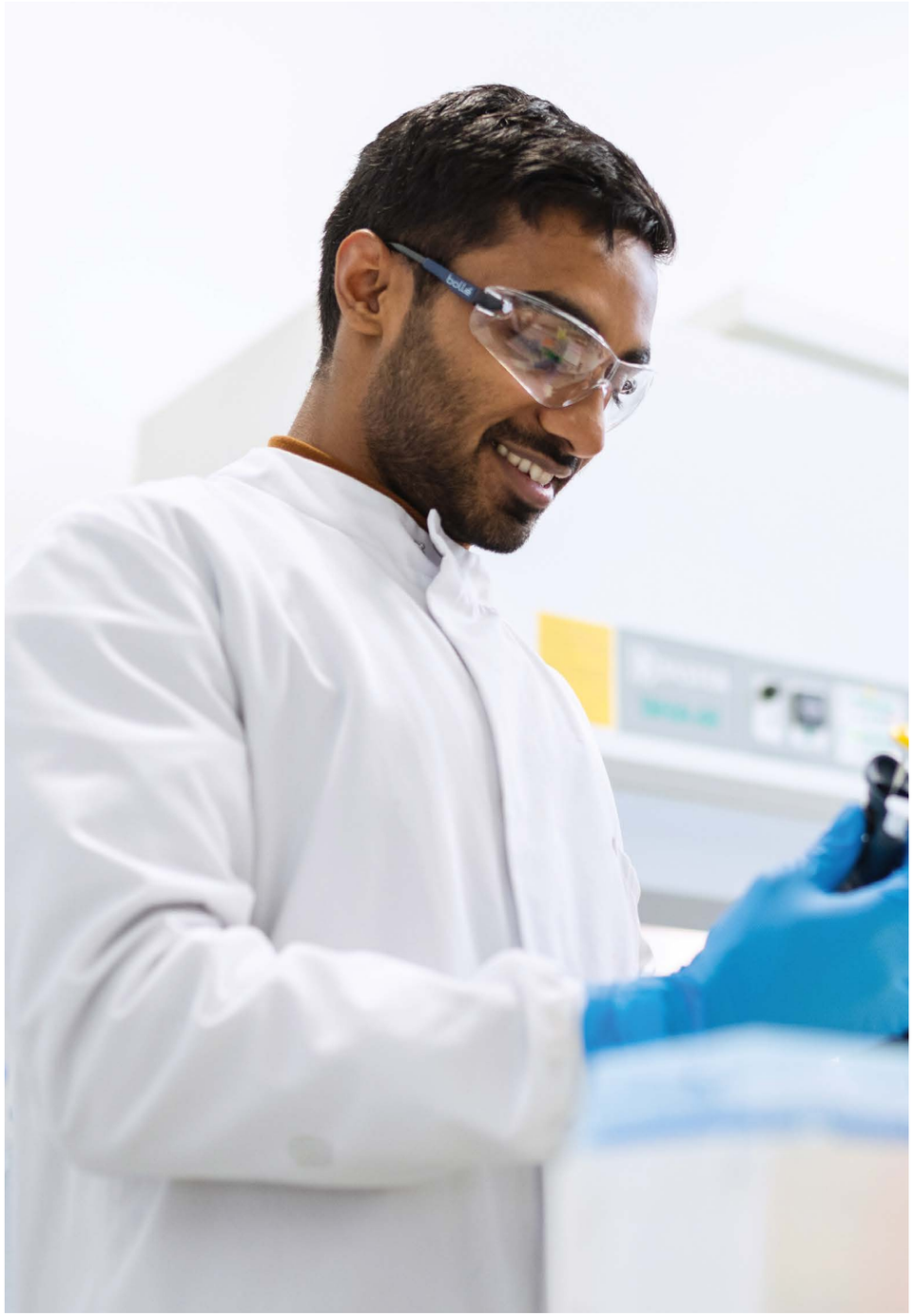
The discovery of antibiotics transformed our world. Thanks to the arrival of these powerful medicines, once-deadly infections such as pneumonia and sepsis caused by bacterial infection are now treatable, and life-saving medical procedures such as surgery and cancer chemotherapy can be carried out safely. In the space of a century, millions of lives have been saved and our well-being radically improved.

We have become so reliant on antibiotics that life without them is unthinkable – and yet, this is fast becoming today's reality. Antibiotics have been used so extensively and inappropriately that many are losing their ability to defeat bacteria. Every year, drug-resistant infections are responsible for 700,000 deaths worldwide; without urgent action, this number will increase exponentially.

EVERY YEAR, DRUG-RESISTANT INFECTIONS ARE RESPONSIBLE FOR 700,000 DEATHS WORLDWIDE

Antibiotic resistance is a global concern that no single country, company or organization can fight alone. Resistant bacteria can spread with ease across countries and regions. They can infect anyone, of any age, but it is the most vulnerable – women, children, people with weakened immune systems, and the elderly – who will be hit first and hardest.

In response to this growing crisis, **GARDP** has set the **5 BY 25** goal, which seeks to develop five new treatments by 2025 to tackle drug-resistant infections that pose the greatest threat to global health and economic security. It's an ambitious goal, but one that we can achieve if we act now, collectively and with urgency.



PARTNERS

GARDP NEEDS YOUR HELP

The Global Antibiotic Research & Development Partnership mobilizes partners to develop new treatments. Working together with governments, the private sector, academia and civil society, we are driving the development of innovative solutions to antibiotic resistance.

In four years, **GARDP** has successfully formed more than 50 partnerships in 20 countries, built a solid base of knowledge and expertise, and created research platforms and programmes to deliver new treatments. We have also built a late stage clinical development portfolio of projects.

Continuing this critical work and achieving **5 BY 25** requires vital resources. That is why we are calling on governments, philanthropic, private and public organizations to support us in reaching our target of EUR 500 million.

Your support will fund the development of lifesaving treatments that are urgently needed to protect our health today and that of future generations.

The five new treatments **GARDP** is developing are focused on the drug-resistant bacteria identified by **WHO** as posing the greatest threat to health and urgently requiring new antibiotics. We are developing treatments for sexually transmitted infections, sepsis in newborns and infections in hospitalized adults and children.

CRISIS

WHAT HAS CAUSED THE ANTIBIOTIC RESISTANCE CRISIS?

ANTIBIOTIC RESISTANCE HAPPENS WHEN GERMS LIKE BACTERIA AND FUNGI DEVELOP THE ABILITY TO DEFEAT THE DRUGS DESIGNED TO KILL THEM

Bacteria can change naturally in response to medicines, developing the ability to defeat drugs. Unfortunately, the overuse and misuse of antibiotics is accelerating this process and drug development is not keeping pace.

VERY FEW NEW ANTIBIOTICS HAVE BEEN DEVELOPED IN THE LAST 25 YEARS

Half of all antibiotics used today were discovered between the 1950s and 1970s. Since that time, drug discovery and development has become more complex, time-consuming and expensive. Newly approved antibiotics typically have short treatment durations, with restrictions on their use to slow the emergence and spread of resistance. This limits the return on investment which is why many in the private sector have left the field.

Even when new antibiotics are made available, they rarely target priority drug-resistant bacteria and are only registered for use in a small number of countries.

BETWEEN 2000 AND 2015, GLOBAL CONSUMPTION OF ANTIBIOTICS INCREASED

65%

*IN THE UK, THE NUMBER OF ANTIBIOTICS PRESCRIBED UNNECESSARILY IS **1 IN 5***
*IN THE US THIS NUMBER IS AS HIGH AS **1 IN 3***

RESISTANCE

THE RISE OF DRUG-RESISTANT INFECTIONS

Globally, we are seeing an alarming increase in deaths caused by once-treatable infections. The World Health Organization (WHO) has published a list of bacteria for which new treatments are urgently needed.

The WHO's list of pathogens for which there is a critical need for new antibiotics includes bacteria that cause infections in patients in hospitals. These affect up to 10% of patients in high-income countries and include infections such as pneumonia and those of the bones, blood, joints and urinary tract. In Europe, over 400,000 people a year contract hospital-associated infections caused by drug-resistant bacteria. In low- and middle-income countries, where healthcare facilities face significant constraints, the number is even higher.

We are also seeing an increase in global infection rates of drug-resistant gonorrhoea. If left untreated, gonorrhoea can have serious consequences for reproductive health as well as increasing the transmission risk of HIV and other sexually transmitted infections (STIs). Vulnerable populations, such as women, and marginalized and vulnerable groups, are affected disproportionately by the consequences of STIs.

Children are one of the groups most vulnerable to antibiotic resistance. Up to 40% of bacterial infections in newborn babies are resistant to standard treatments and more than 214,000 newborn babies die each year from drug-resistant infections. Most of these deaths occur in low-income countries. Sadly, there is little effort to develop new treatments for babies and paediatric clinical trials are rare.

DRUG-RESISTANT INFECTIONS CAN AFFECT ANYONE, ALTHOUGH IT IS THE MOST VULNERABLE WHO ARE MOST AT RISK

In 2015,
214,000
babies died globally due to drug-resistant infections

During 2015,
670,000
people in EU contracted drug-resistant infections resulting in 33,000 deaths

In 2018,
>150,000
deaths in the US were estimated to be due to antibiotic resistance

THREAT

A THREAT TO THE SDGs

The Sustainable Development Goals (SDGs) embody our aspirations and greatest hope for a healthier and more prosperous world. The understanding that a sustainable future depends on protecting and promoting the well-being of every person, wherever they live, is in the DNA of the SDGs, which include a specific goal on ensuring healthy lives for all.

Targets within this health goal, known as SDG3, include ending preventable deaths of newborns and children, strengthening reproductive health and ensuring access to effective and affordable essential medicines. Achieving these targets will require urgent action to deliver effective treatments, available for every person who needs them, wherever they live.

The UN General Assembly recognizes that working together to combat drug resistance is critical, with an unprecedented level of global cooperation and coordination required.

ACTIONS

GALVANIZING GOVERNMENTS TO ACT

*"**WHO** is one of the co-founders supporting **GARDP** in building a pipeline of innovative treatments to address antibiotic-resistant infections and make these treatments available to all. I call on governments, foundations and other donors to engage and help **GARDP** in achieving its aim to develop five new treatments by 2025."*

DR. TEDROS ADHANOM GHEBREYESUS
WHO DIRECTOR-GENERAL

Antibiotic resistance is a complex problem that poses an immediate threat to world prosperity and security. Tackling the growing crisis will require unified political action, on a national and international level. If sustained action isn't taken, drug resistance will be at least as devastating to the global economy as climate change.

2015

GLOBAL ACTION PLAN
WHO releases a Global Action Plan on Antimicrobial Resistance, calling for governments to develop National Action Plans

2016

FIRST ASSEMBLY
the United Nations General Assembly holds the first high-level meeting on antimicrobial resistance, passing a political declaration for action

FINAL REPORT
Tackling Drug-Resistant Infections Globally: Final report and recommendations, chaired by Jim O'Neill report is published

2017

G20 AGENDA
Antimicrobial resistance is prioritised by the G20 Health Ministers, under the German Presidency. **GARDP** has been named in all health ministers' communiqués since 2017

2018

167 COUNTRIES
100 countries have drawn up a national action plan on anti-microbial resistance, and a further 67 have plans in progress

2019

NO TIME TO WAIT
The Interagency Coordination Group (IACG) on Antimicrobial Resistance launches its report, *No Time to Wait: Securing the Future from Drug-Resistant Infections*

WHA RESOLUTION
The World Health Assembly Adopts Resolution on Antimicrobial Resistance

2020

FUNDING NEEDED
Lancet Infectious Diseases Commission Report concludes efforts have been inconsistent, and sustained funding for globally harmonised targets to monitor progress is still urgently needed

LESSONS FROM COVID-19

The coronavirus disease (COVID-19) pandemic has shown how a virus can disrupt health systems, economies and threaten vulnerable populations. It has also highlighted the critical importance of pandemic preparedness particularly the need to invest in research and development for new diagnostics, treatments and vaccines.

The link between COVID-19 and drug-resistant infections is more troubling than many realize. Antibiotics, while not effective against viruses, have been used in people with the novel coronavirus to prevent or treat secondary bacterial infections, including bacterial pneumonia and bloodstream infections like sepsis. However, many of these infections are increasingly resistant to existing treatments.

Just like COVID-19, antibiotic resistance is a health security crisis that moves silently within populations and knows no boundaries. No single country, company or organization can fight drug resistance alone. It can only be done in partnership. We must act now to prevent drug-resistant infections from becoming the next global public health emergency. We count on your support.

ECONOMIC IMPACT OF DRUG RESISTANCE BETWEEN 2020 AND 2050

The World Bank has warned that antimicrobial resistance could be as damaging to the global economy as the **2008 financial crisis**

28.3 million more people will fall into extreme poverty

Global healthcare costs will increase by up to **$1 trillion per year**

ADDRESSING STEWARDSHIP AND ACCESS

Efforts to tackle drug-resistant infections must ensure responsible and sustainable access to new treatments for bacterial infections and address issues of stewardship.

Responsible and sustainable access refers to treatments that are of required quality, affordable for patients and health systems, and supplied in a timely manner. Stewardship must also be in place to ensure the antibiotics are used responsibly to limit the emergence and spread of drug-resistance.

GARDP is working for a world where everyone who needs antibiotics receives effective, appropriate and affordable treatment, no matter where they live.

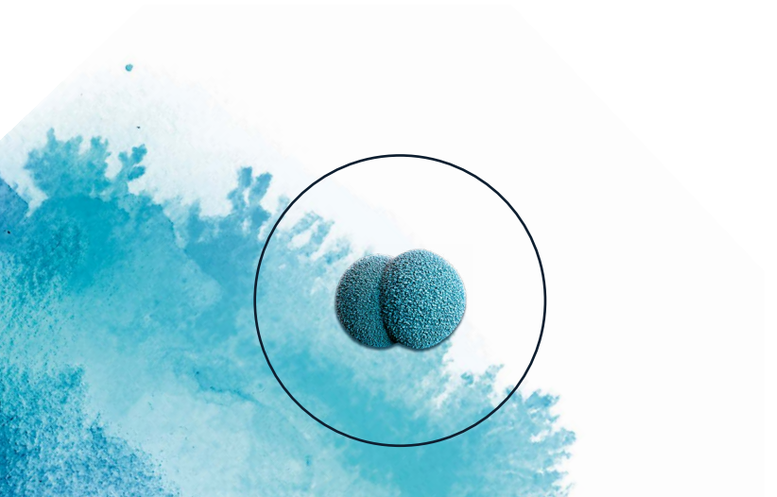
PARTNERSHIP

CREATING A POWERFUL PARTNERSHIP

GARDP was created to promote innovative solutions to the challenge of antibiotic resistance. We harness experience and insights from governments, the private sector, academia, civil society and people affected by drug-resistant infections.

We focus on late-stage clinical development and work to ensure that when a new treatment is developed it is made accessible to those who need it.

We support governments, regional networks and the WHO to develop guidelines and stewardship policies that ensure responsible and sustainable access.



PRIORITIES

GARDP'S KEY PRIORITIES

CHILDREN'S **ANTIBIOTICS**

We are working to accelerate the development of new, improved and adapted antibiotics to treat drug-resistant infections in children, including sepsis in babies.

SERIOUS BACTERIAL **INFECTIONS**

We are accelerating the development of new treatments to address bacterial infections in hospitalized people for which there are limited or no treatment options.

SEXUALLY TRANSMITTED **INFECTIONS**

We are accelerating the development of new treatments for difficult-to-treat and drug-resistant sexually transmitted infections, including gonorrhoea.

DISCOVERY & **EXPLORATORY**

We are screening chemical libraries to identify compounds that can be transformed into treatments for drug-resistant infections; identifying new chemical entities for preclinical and clinical development; and working with partners on a range of educational and knowledge sharing activities in antibiotic drug R&D, including REVIVE (revive.gardp.org).

IMPACT

WE ARE MAKING AN IMPACT

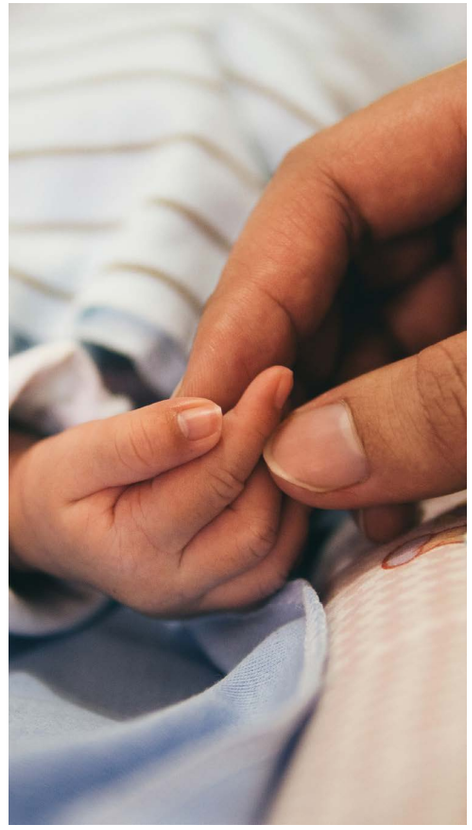
GARDP was created by WHO and the Drugs for Neglected Disease *initiative* (DND*i*) in 2016. Since then, we have:

- Partnered with Entasis Therapeutics to develop a first-in-class treatment for gonorrhoea, which is currently being evaluated in a global phase 3 trial.
- Completed a safety evaluation of an existing antibiotic (fosfomycin) for use with children and babies to treat drug-resistant infections, including neonatal sepsis.
- Enrolled over 3,000 babies in one of the largest global studies on newborns with sepsis, to transform prevention and treatment and end sepsis as a leading cause of death among babies.
- Created a paediatric antibiotic development platform and identified candidates for serious infections in babies and children.
- Partnered with Venatorx to test a drug candidate for serious bacterial infections, including complicated urinary tract infections, in hospitalized adults.
- Launched REVIVE (revive.gardp.org), an online knowledge sharing platform on antimicrobial R&D, that enables all researchers, new and experienced in the antimicrobial field, to benefit from the experience and knowledge of recognized experts. To date, over 3,200 participants from around the world have joined more than 20 webinars led by experts in the field.
- Evaluated more than 100 new and 'recovered' chemical entities as part of our discovery and exploratory research programme to boost antibiotic R&D.
- Built a late stage clinical development portfolio.
- Become fully operational as a not-for-profit foundation (2019) with a skilled team of 40+ employees.

SUPPORT

THE POWER OF PARTNERSHIPS

GARDP is calling on the world to support the delivery of five new treatments by 2025 to tackle the drug-resistant infections that pose the greatest threat to global health and economic security. We are seeking €500 million to develop these treatments and ensure their responsible use and sustainable access.



Your support will allow us to develop new and life-saving treatments. It will fund critical work to enable access to antibiotics for every person who needs them and to ensure treatments remain effective for as long as possible.

By acting now, collectively and with urgency, we can deliver five treatments by 2025 to safeguard our health now and for generations to come.

CONTACT

FOR MORE INFO

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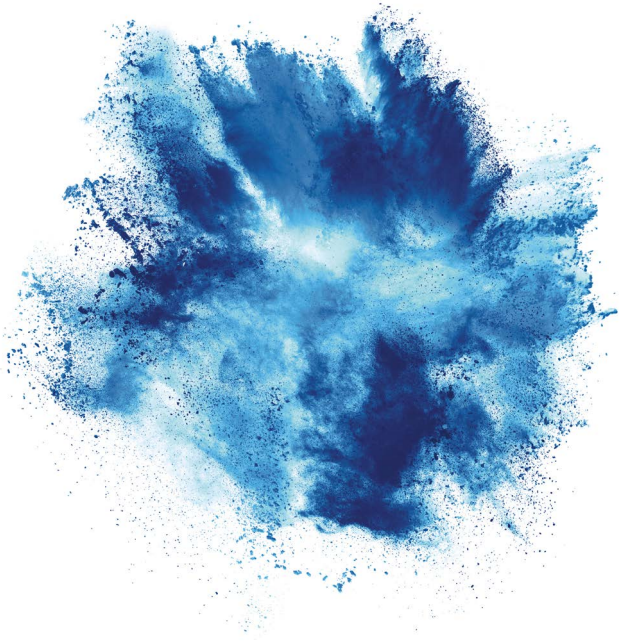

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