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DAWN PEARSON
Writing and Copyediting Samples
Technology and Life Sciences

Email dpearsonwriter@gmail.com
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Portfolio <https://linktr.ee/dawnpearson>

COPYEDITING SAMPLES

ELEARNING COURSE DESCRIPTION – COPYEDITING SAMPLE

I copyedited this eLearning course description to align with the creative brief and internal style.

The details are located here:

**[HTTPS://WWW.CYTIVALIFESCIENCES.COM/EN/US/EDUCATION/ONLINE-
LEARNING/OBJECT/COURSE-1804962](https://www.cytivalifesciences.com/en/us/education/online-learning/object/course-1804962)**

Content Before My Copyedit

Course title: Overview of the biopharma industry and products

About course:

In this level 1 course, you will acquaint yourself with the current healthcare status and role of biopharma industry.

This course states the dynamics of health around the globe and the various biotherapeutics available to treat both communicable and noncommunicable diseases. You will learn about different types of biotherapeutics used to fight disease, ranging from small molecules like insulin to large molecules like monoclonal antibodies. Some examples of blockbuster drugs are also shown. You will get an overview of the different drug development phases and the role of global and national regulatory agencies.

The course also covers some of the challenges faced by the biopharma industry. The course is divided into several short topics which can be accessed and completed individually. You will receive a certificate of completion after scoring a minimum of 80% in the course assessment.

The full course will take you about 40 minutes to complete.

Content After My Copyedit

Course title: Overview of the biopharma industry and products

About course:

In this introductory online course, you'll learn the biopharma industry's role in developing therapies to meet today's healthcare challenges.

After completing this course, you'll:

- Understand the dynamics of global health and the various therapies available to treat both communicable and noncommunicable diseases.
- Discover the different therapeutic modalities used to fight disease, which range from small molecules (insulin) to large molecules (monoclonal antibodies). You'll also learn some examples of blockbuster drugs that are making a valuable impact.
- Explore drug development from discovery to delivery, with an overview of the different phases and the role of global and national regulatory agencies.

Learn at your own pace with this online course, which consists of interactive content including documents, videos, and a quiz. This 40-minute paid course is divided into several short topics that you can access and complete on demand. Score at least 80% on the quiz, and you'll receive a certificate of completion.

Make an impact by growing your knowledge. Register today.

DAWN PEARSON
Writing and Copyediting Samples
Technology and Life Sciences

Email dpearsonwriter@gmail.com
Website <http://www.dawn-pearson.com/>
Portfolio <https://linktr.ee/dawnpearson>

BLOG POSTS – COPYEDITING SAMPLES

*Below are links to Amazon AWS blog posts that I've copyedited.
These blog posts are representative of blog posts that I typically copyedit for
data privacy, machine learning (ML), artificial intelligence (AI), and
containerized cloud computing solutions for software engineers.*

Optimize your Spring Boot application for AWS Fargate

https://aws.amazon.com/blogs/containers/optimize-your-spring-boot-application-for-aws-fargate/?nc1=h_ls

Managing AWS Elastic Disaster Recovery launch templates at scale

<https://aws.amazon.com/blogs/storage/managing-aws-elastic-disaster-recovery-launch-templates-at-scale/>

Reducing AWS Fargate Startup Times with zstd Compressed Containers Images

<https://aws.amazon.com/blogs/containers/reducing-aws-fargate-startup-times-with-zstd-compressed-container-images/>

Amazon EKS now supports Kubernetes 1.23

<https://aws.amazon.com/blogs/containers/amazon-eks-now-supports-kubernetes-1-23/>

TECHNICAL CONTENT WRITING SAMPLES

INSTRUCTIONAL GUIDE

I wrote this instructional guide with the intended audience of general staff who were novice users of Adobe Acrobat.

How to Create a PDF/A

Introduction

Portable Document Formats (PDFs) are a common format for preserving information. A specific format, the PDF/A (Portable Document Format/Archival), is an archival format of a PDF that embeds all fonts used in the document within the PDF file.

The PDF/A family of standards attempts to maximize device independence, self-containment, and self-documentation with constraints on audio and video content, prohibition of Javascript and executable file launches, embedded fonts, specified colorspaces, disallowed encryption, and mandated standards-based metadata (1–3). These constraints keep the PDF/A safe, secure, readable, and accessible for long term.

PDF/A is a constrained form of Adobe PDF version 1.4 intended to be suitable for long-term preservation of page-oriented documents for which PDF is already being used in practice. The International Standards Organization (ISO) standard (ISO 19005-1:2005) was developed by a working group with representatives from government, industry, and academia and with active support from Adobe Systems Incorporated. A multitude of companies offer PDF products (4).

This standard operating procedure (SOP) shows you how to convert an existing PDF into a PDF/A that aligns with ISO 19005-1:2005, which ensures long-term stability and use.

Walkthrough

Create a PDF/A by following these four steps described below.

Step 1: Create a PDF in Adobe Acrobat

- Create or select a pre-existing PDF for conversion to the PDF/A format.

-
- This SOP's example PDF (*Client Legal Training.PDF*) was previously created and will be converted into the PDF/A format in Adobe Acrobat to demonstrate this procedure.

Step 2: Open the PDF in Adobe Acrobat

Open the PDF file by performing the following tasks in sequence:

- Open Adobe Acrobat.
- Select **Open** on the **File** menu.

These tasks are shown in Figure 1, which shows how to open the PDF.

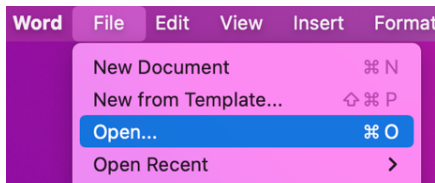


Figure 1: Step 2 (Open the PDF in Adobe Acrobat)

Step 3: Save As PDF/A File Format

Save the PDF file to the PDF/A format by performing the following tasks in sequence:

- Select **File**.
- Select **Save as Other**.
- Select **Archivable PDF (PDF/A)**.

These tasks are show in Figure 2, which shows how to save the PDF as the PDF/A file format.

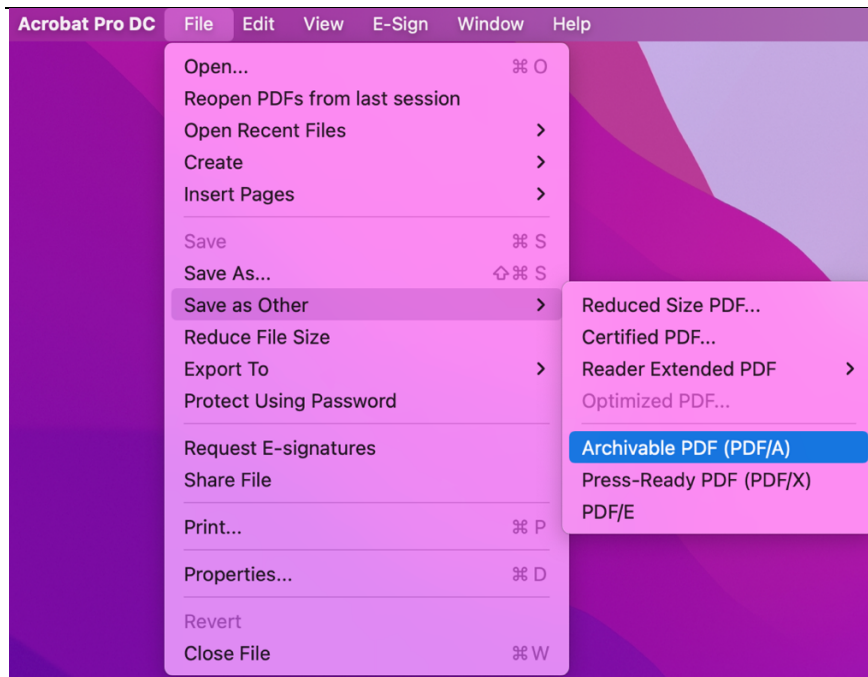


Figure 2: Step 3 (Save As Other)

Step 4: Location of PDF/A File

Select a location for the PDF/A file by performing the following tasks in sequence:

- Choose the location where you want to save the PDF/A-formatted file.
- Select **Save**

The example (*Client Legal Training.pdf*) is shown in Figure 3.

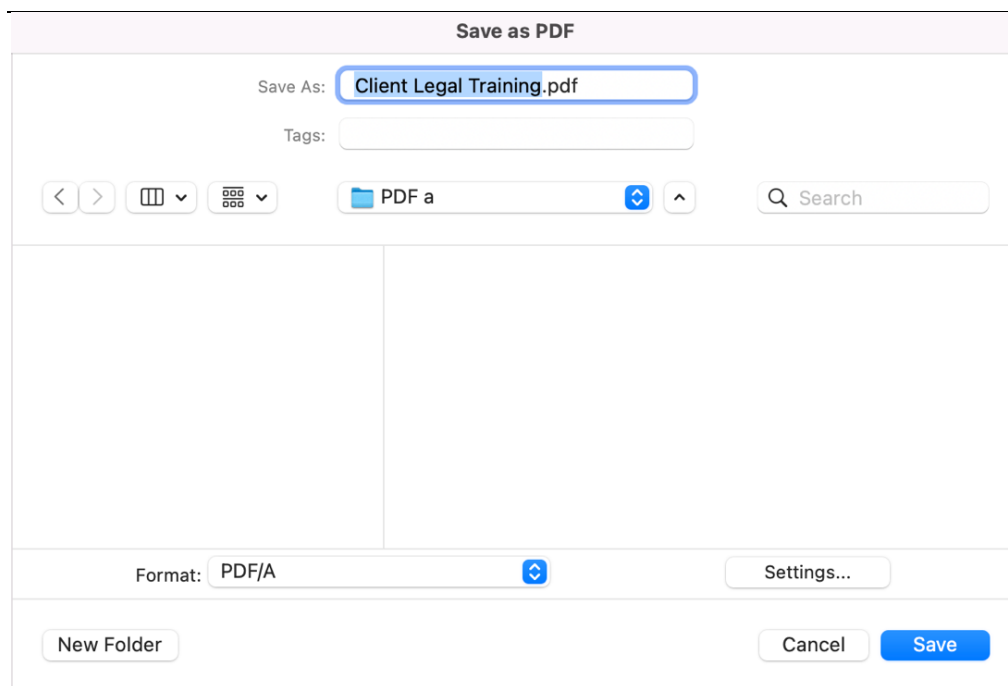


Figure 3: Step 4 (Location of PDF/A File)

Summary

This SOP showed you how to create a PDF/A that aligns with ISO 19005-1:2005.

List of Abbreviations

ISO	International Standards Organization
PDF	Portable Document Format
SOP	standard operating procedure

Resources

1. PDF/A. Wikipedia, last updated 08JUL2022, accessed 16AUG2022.
<https://en.wikipedia.org/wiki/PDF/A>
2. PDF/A Competence Center. <https://www.pdfa.org/pdfa-competence-center-expands-to-pdf-association-to-cover-all-open-international-standards-for-pdf/>
3. Format Description. Last updated 29JUL2022, accessed 16AUG2022.
<https://www.loc.gov/preservation/digital/formats/fdd/fdd000125.shtml>
4. PDF products. <https://www.pdfa.org/products/>.

ELEARNING COURSE DESCRIPTION

I wrote this eLearning course description with the intended audience of biopharmaceutical laboratory scientists who focus on drug manufacturing.

Fundamentals 101: Biacore SPR Assay Course

Course information:

The **Biacore Surface Plasmon Resonance (SPR)** assay is a label-free analytical technique that provides real-time binding event data of interacting molecules. The assay's strength is the Biacore SPR-based sensors, which make it a valuable research tool that provides real-time data on binding kinetics, affinity, and specificity of protein interactions, and also provides protein sample concentration.

Learning objectives:

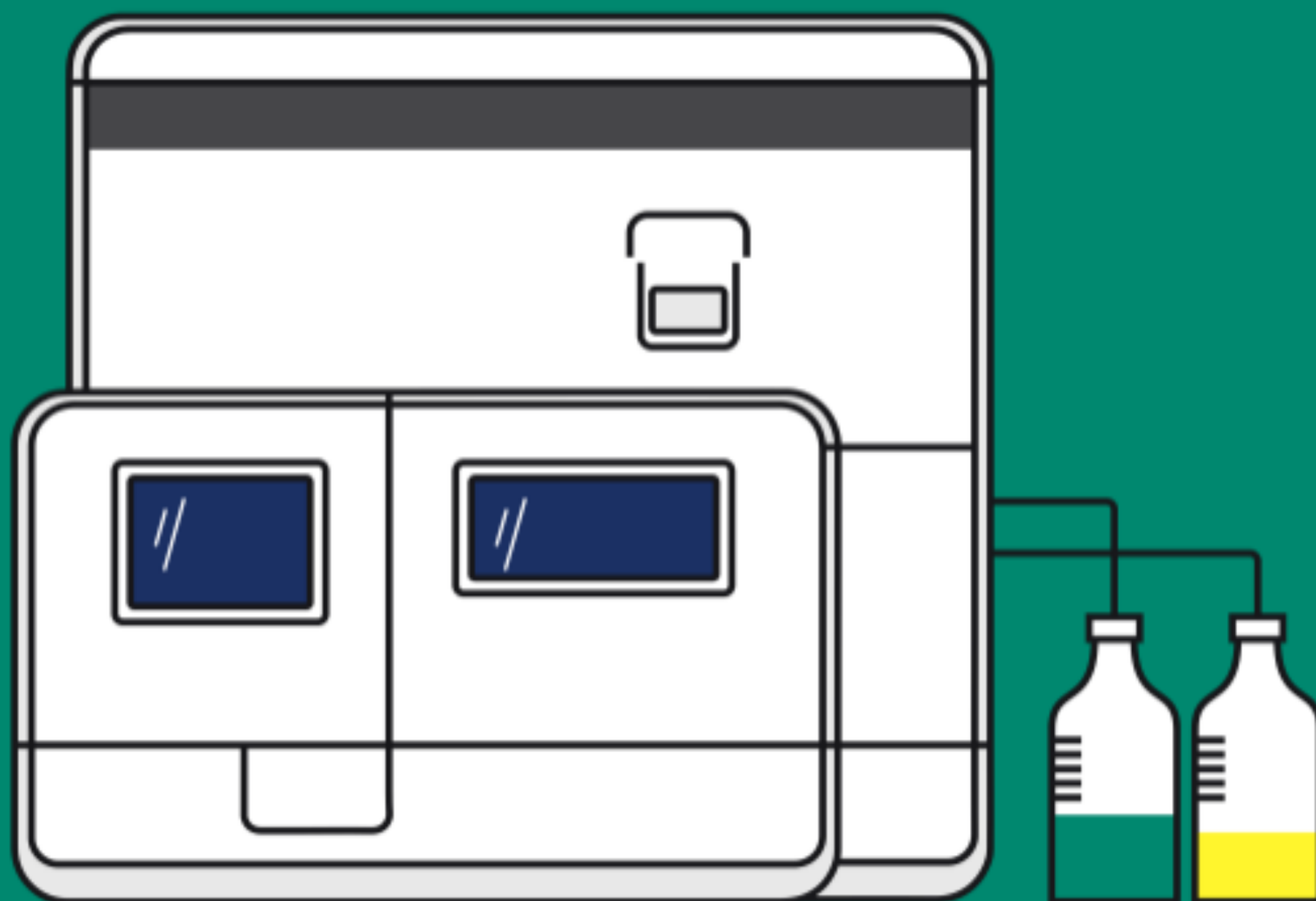
The **Fundamentals 101: Biacore SPR Assay Course** provides an overview of SPR, its applications for use in research and drug development, ligand selection guidelines, sample injection recommendations, assay troubleshooting techniques, pre-assay surface generation guidelines, SPR analytical techniques, and assay optimization tips for novice or beginner users of this technology.

The learning objectives of this course are:

- Sample preparation recommendations
- Ligand attachment approaches
- Sample-specific assay optimization

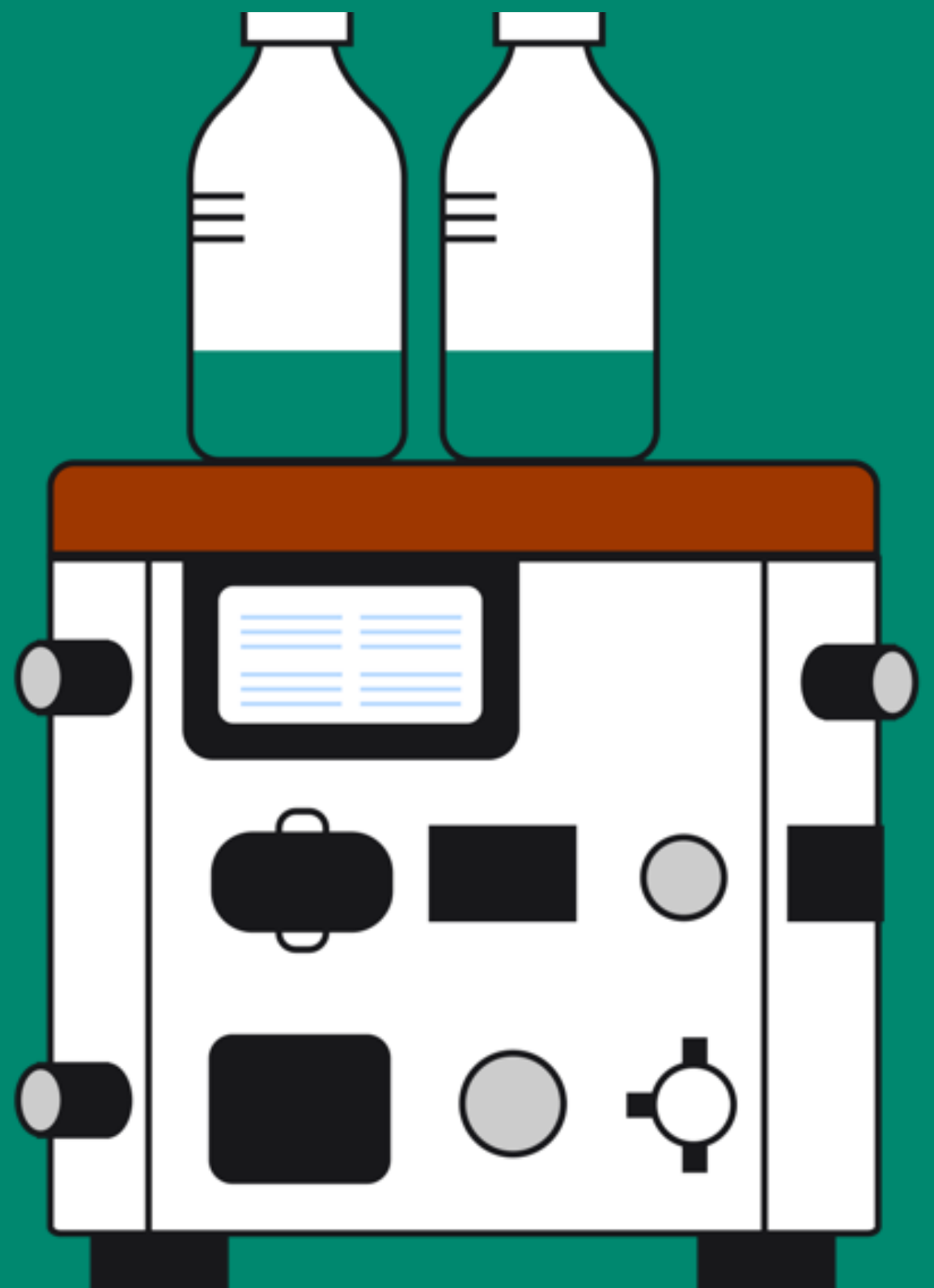
Five habits for lab equipment maintenance

Here's what you need to know



Use our checklist of best practices

to keep bioprocessing
instruments running
smoothly, reduce
downtime and extend the
life of your lab equipment



Download this free guide

to keep your lab
equipment reliable
and your research
running smoothly



Five habits for lab equipment maintenance

Here's what you need
to know

To continually break
down barriers and make
new discoveries, you
need lab equipment that
performs consistently.

Use our checklist of best
practices to keep
bioprocessing
instruments running
smoothly, reduce
downtime, and extend
the life of your lab
equipment.



1 Choose equipment

Appointing one point
maintenance is more
job to various users —
person can efficiently
schedules and serve a
users. And they'll dev
of the technology, wh
moving forward.

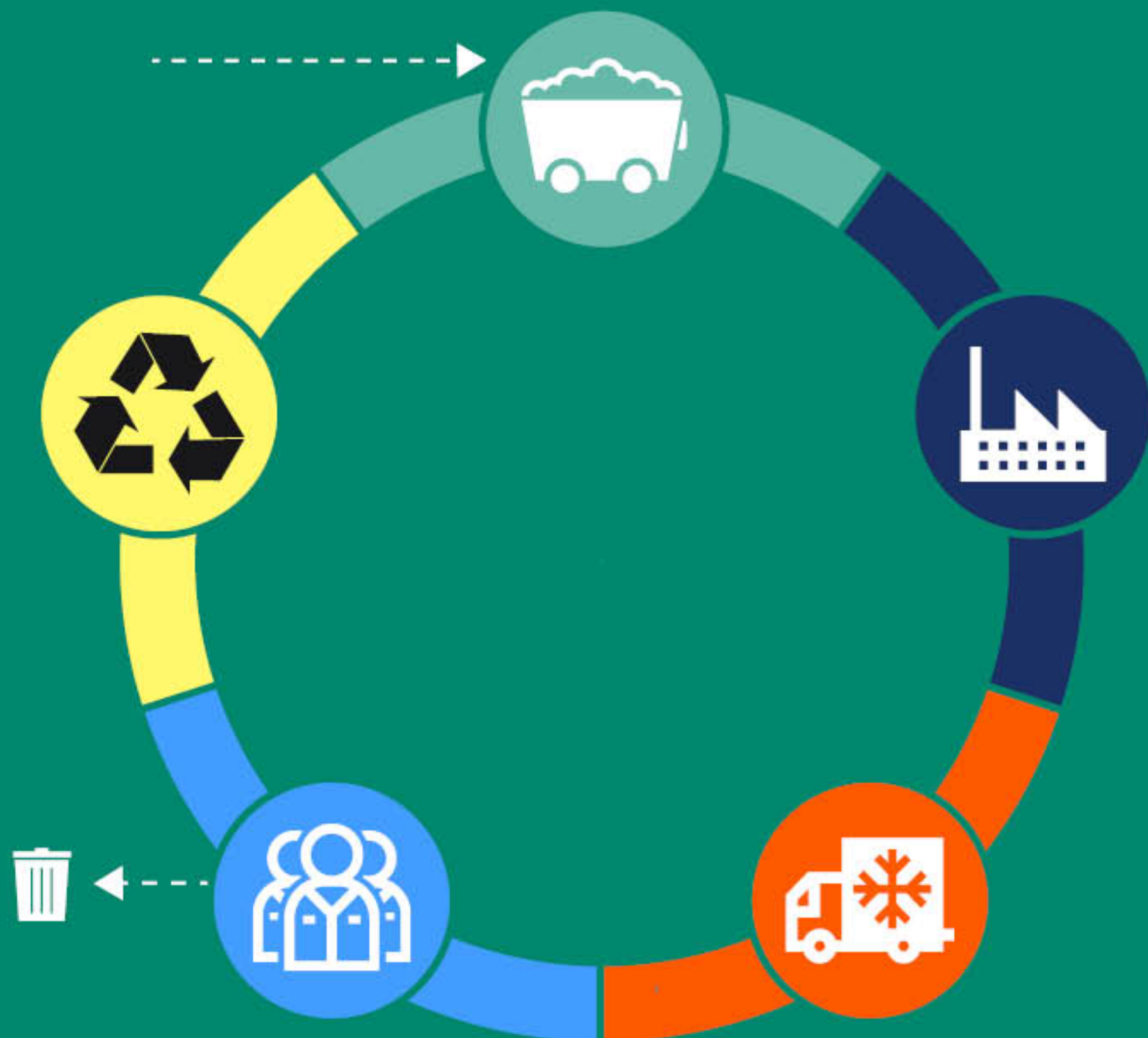


2 Rinse th highly p after ea

Running molecules or
paths can slowly cre



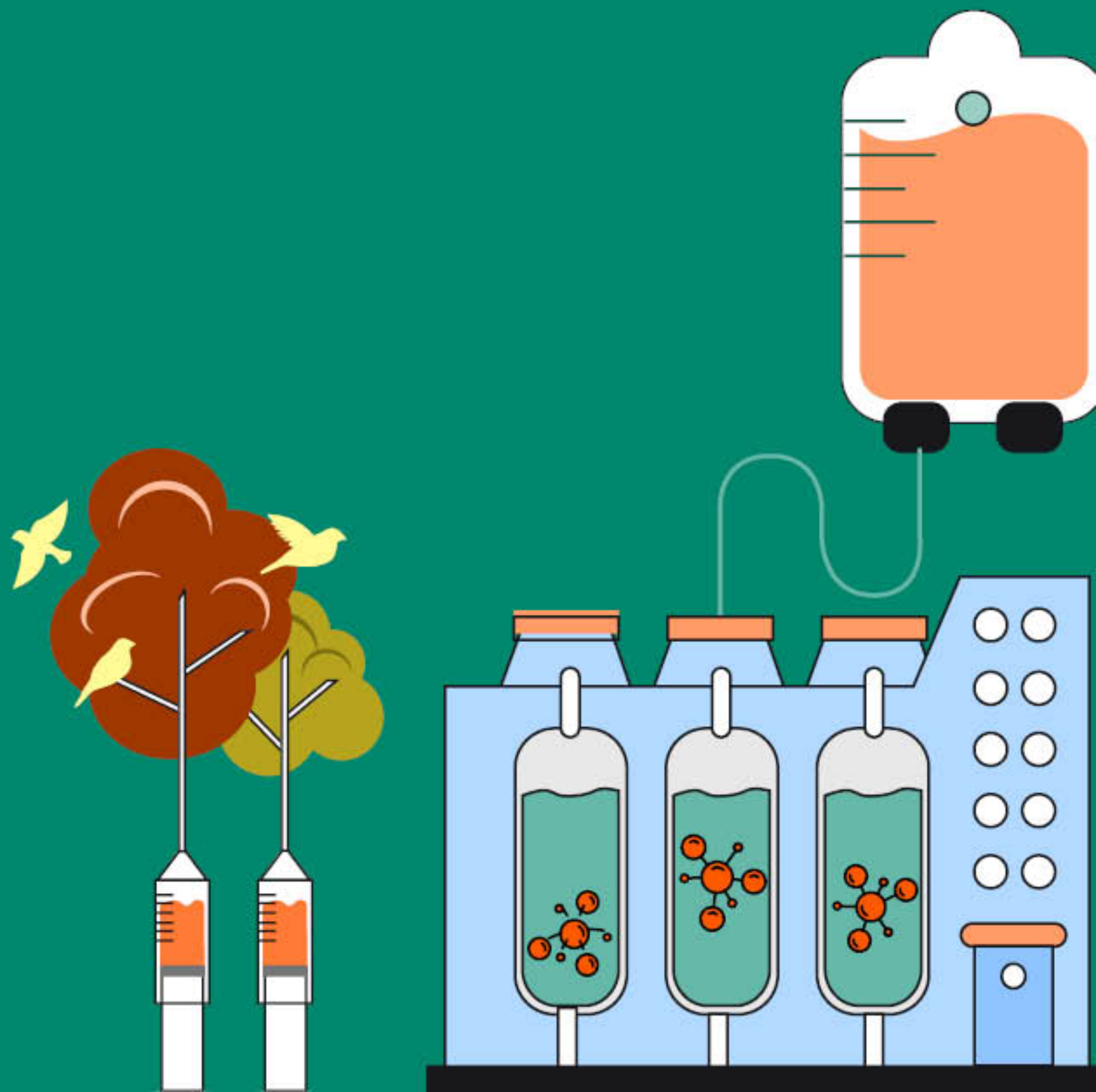
Making single-use products more sustainable...



THE CHALLENGE

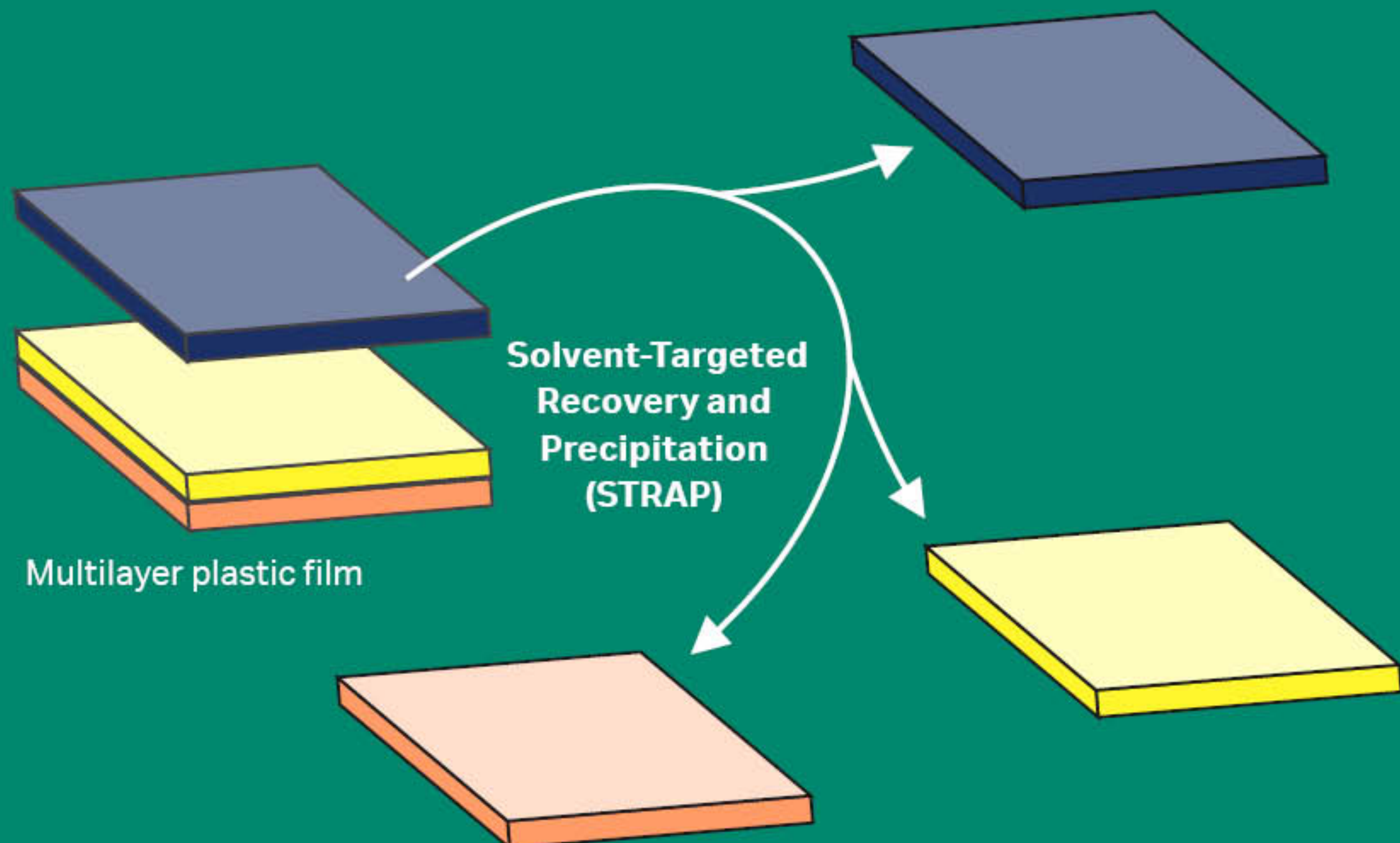
Today, only 6%* of single-use products are recycled due to complexities like mixed plastics, and ineffective or uneconomical recycling.

<https://ispe.org/pharmaceutical-engineering/ispeak/end-life-management-single-use-products-bioproduction>



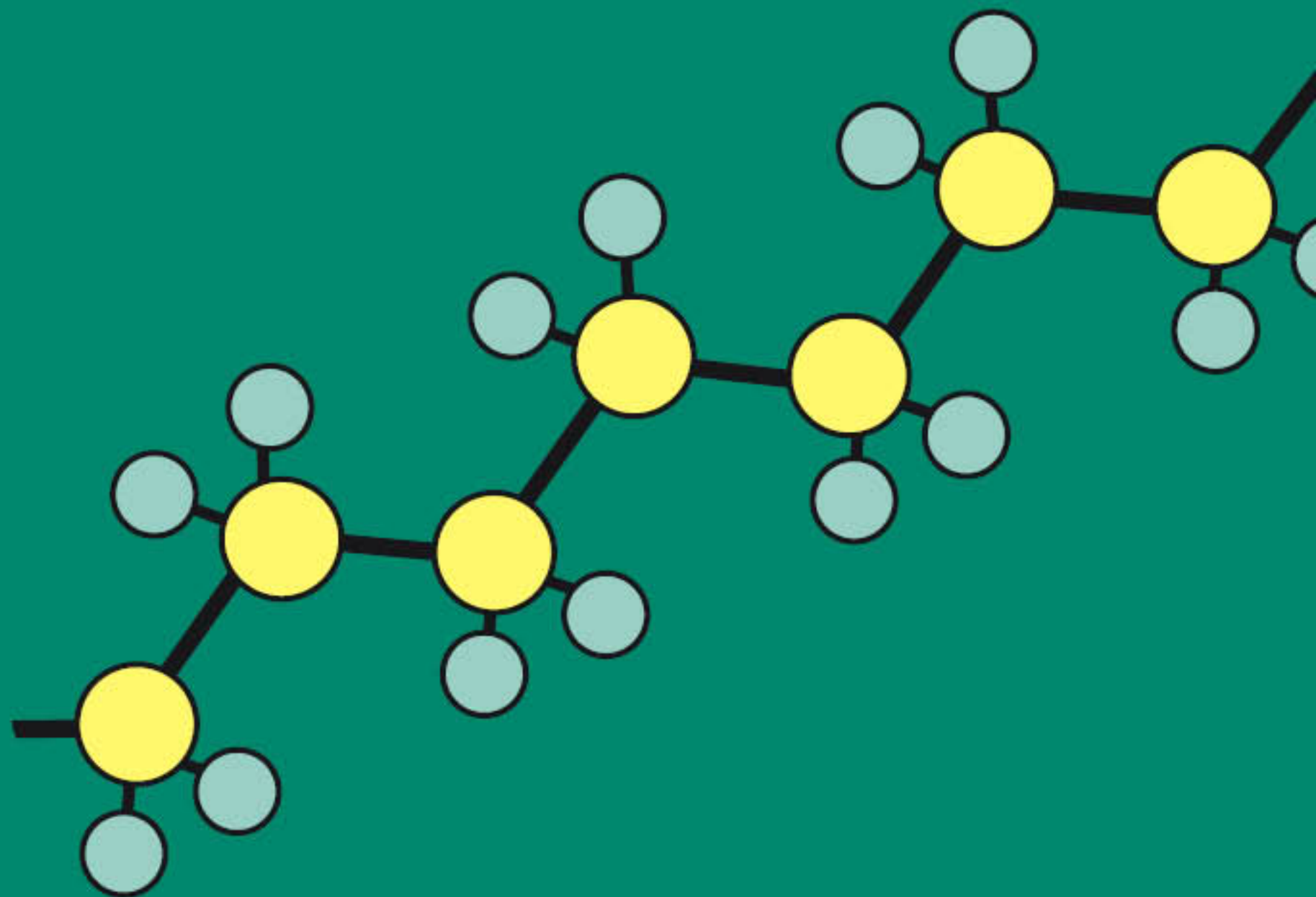
A SOLUTION

The University of Wisconsin–Madison developed Solvent Targeted Recovery and Precipitation (STRAP)[™] technology to reclaim polymers from mixed plastic waste.



IN ACTION

Using STRAP technology, we have recycled Cytiva single-use products into high-purity polymers. Now we are exploring how to scale this up for use on bioprocessing plastic waste.





By combining our expertise with the driving force of these researchers, we're aiming to change bioprocessing waste into a circular model.

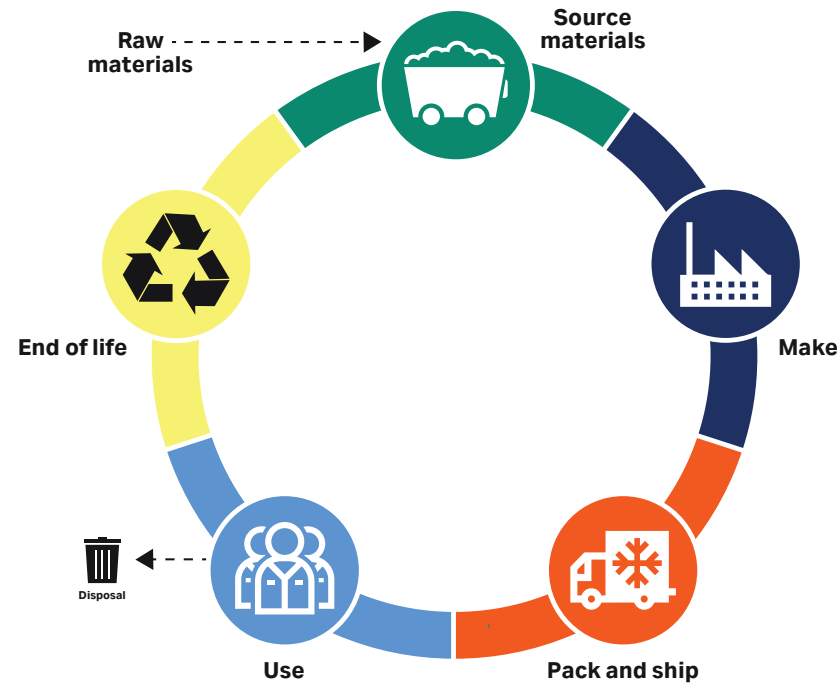
Karl Britt

VP of Technology and
Eco-design, Cytiva



cytiva

Chromatography resins: An environmental perspective



Unleashing the power of life cycle management

For over 50 years, Cytiva has worked with you to advance and accelerate therapeutic production. Now, together, we embark on a journey to reshape the biopharma value chain. We're committed to integrating eco-design principles into our resin development and processes to better understand the environmental impact of our products along their life cycle. Armed with this information, we can make design changes to improve our products' efficiency and minimize carbon impact, water usage, and more.

We can only succeed in these efforts if we work together across all life cycle stages, with product use and end of life playing a critical role in overall environmental impact. Through life cycle assessments and the optimization of resources during drug processing and development, we saw up to a 90% reduction in CO₂e.

The challenge ahead is immense, and we can't do it without you.



Raw materials

To preserve the Earth's limited resources, Cytiva is actively assessing how and where renewable source materials could be beneficial, investing in new technologies, and exploring options to extend a product's life. We're also strategically collaborating with suppliers who share the same ambitions we do.

Together, we can reduce environmental impacts, ensure responsible sourcing, and preserve labor and human rights.

77%

of our direct suppliers have completed their EcoVadis assessment

18 600

tonnes CO₂ saved in 2023 for resins at our on-site solvent recovery plant, equivalent to 4350 flights around the globe

35%

water intensity reduction in resin manufacturing since 2019

Manufacturing

The manufacturing of our chromatography resins uses 100% renewable electricity, which includes on-site solar power capture, a power purchase agreement (PPA), and renewable energy credits (RECs).

Cytiva Sweden AB was EcoVadis Platinum rated in 2022 and 2023, putting us in the top 1% of all manufacturers in all industries.

84%

site recycling rate for plastic packaging waste

100%

renewable electricity and district cooling

46%

reduction in carbon intensity of district steam

Distribution

We're optimizing our logistics by consolidating shipments where possible, transporting goods via ocean instead of air, analyzing network design, switching to sustainable packaging materials, and moving to in-region-for-region manufacturing and sourcing.

This optimization strategy will increase security of supply and reduce CO₂ emissions from shorter shipping distances.

100%

of our shipping trucks in Sweden powered by hydrotreated vegetable oil (HVO) in cooperation with our logistics provider

82%

reduction in plastic packaging at our Swedish distribution center

1

new US manufacturing site to open in 2026, increasing resin production to improve security of supply

Use and end of life

With more than 50 years of manufacturing expertise and scientific support, we help you optimize the use of our resins for peak performance, maximum yield, and extended product life.

For example, using eco-design principles on a protein A capture step, we reduced CO₂e up to 90% by switching from a legacy resin to MabSelect PrismA™ and through optimizing resource and energy use.

Minimizing

environmental impact by increasing life cycle assessment expertise

Uniting

sustainability metrics and high process performance

Fostering

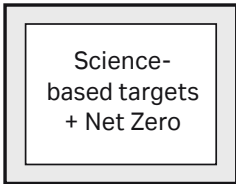
collaboration and transparency across the value chain

Our impact to the United Nations Sustainable Development Goals



Our commitment to sustainability

Thriving people, thriving planet, a resilient business. For Cytiva, these three aims are deeply connected. Achieving them is our ambition and our responsibility. That's why we commit to integrating respect for people and care of the environment in our decisions in ways that have a lasting impact on society, our customers, patients, and Cytiva associates.



This statement of our commitment to sustainability reflects our support of the UN Global Compact and its 10 principles on human and labor rights, environmental protection, and anti-corruption. It is echoed in relevant policies, procedures and strategic priorities across Cytiva.

Want to learn more?
cytiva.com/sustainability

cytiva.com

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For local office contact information, visit cytiva.com/contact

CY47122-05Sep24-FL





Sustainability

2023 Environmental impacts



Who we are

Our vision is a world in which access to life-changing therapies transforms human health.

Our mission is to advance and accelerate therapeutics.

With a rich **heritage** dating back hundreds of years, our wealth of technical expertise and talent, a broad and deep portfolio, and exceptional service help researchers and biopharma advance therapeutics at every stage from discovery to delivery.

Cytiva is part of **Danaher**, a global science and technology leader. Along with Danaher’s diagnostic and life sciences businesses, we bring an innovative mindset to our collaborations with customers to help them improve patient outcomes.

15 000+

associates dedicated to our mission.

41+

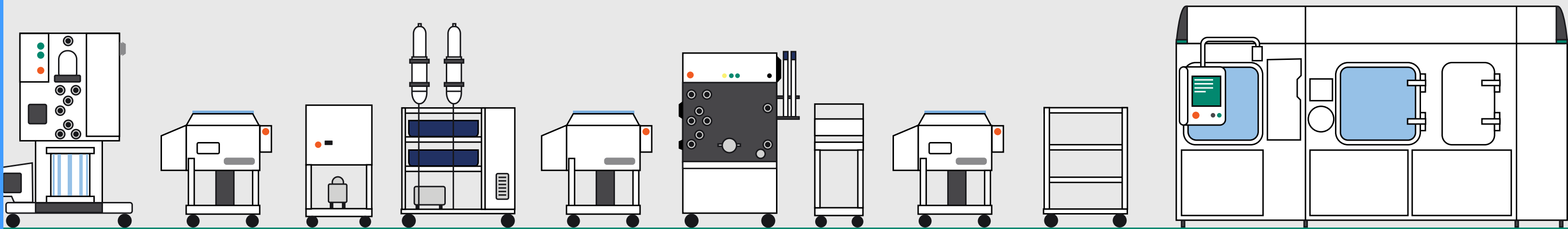
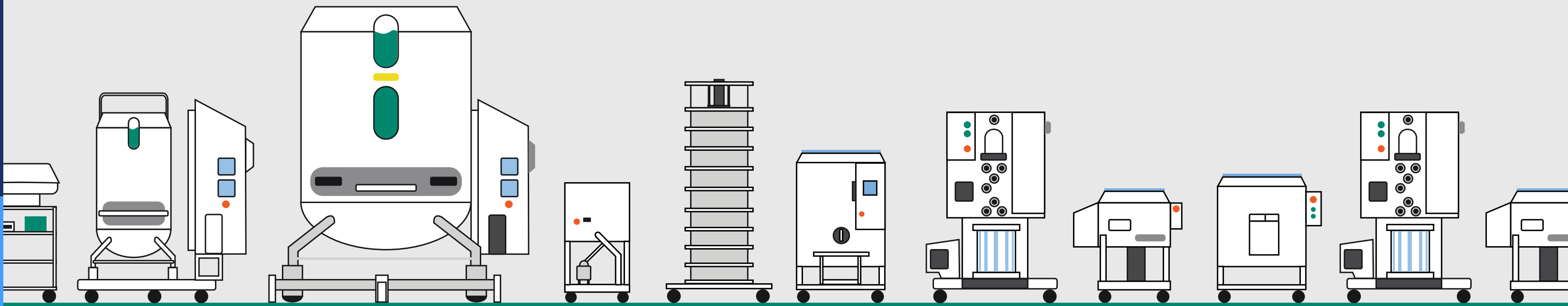
countries and territories of operation.

23

R&D and innovation centers.

60+

years in the biopharma supply industry.





We can't achieve our sustainability promises alone. By collaborating with customers and suppliers across our industry ecosystem, we can better understand and manage impacts and partner with like-minded organizations.

Emmanuel Abate

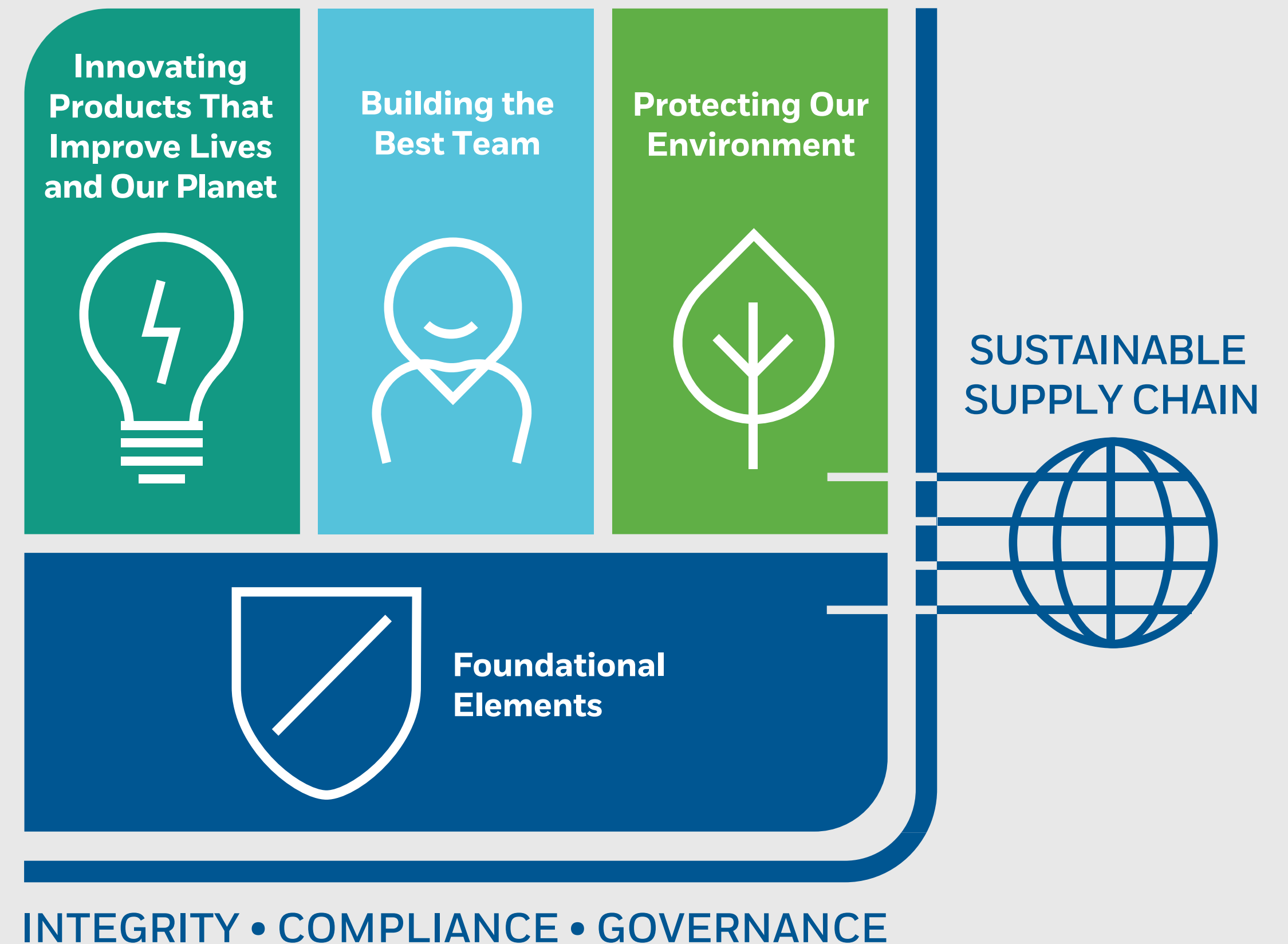
President, Genomic Medicine, and Head of Sustainability



Our sustainability strategy

At Danaher, and therefore Cytiva, we view sustainability as a fundamental part of how we conduct responsible business across every aspect of our organization. With this in mind, our sustainability strategy is to help generations of our stakeholders by:

- Innovating products that improve lives
- Building the best team
- Protecting our environment



To help our planet thrive

We are committed to set

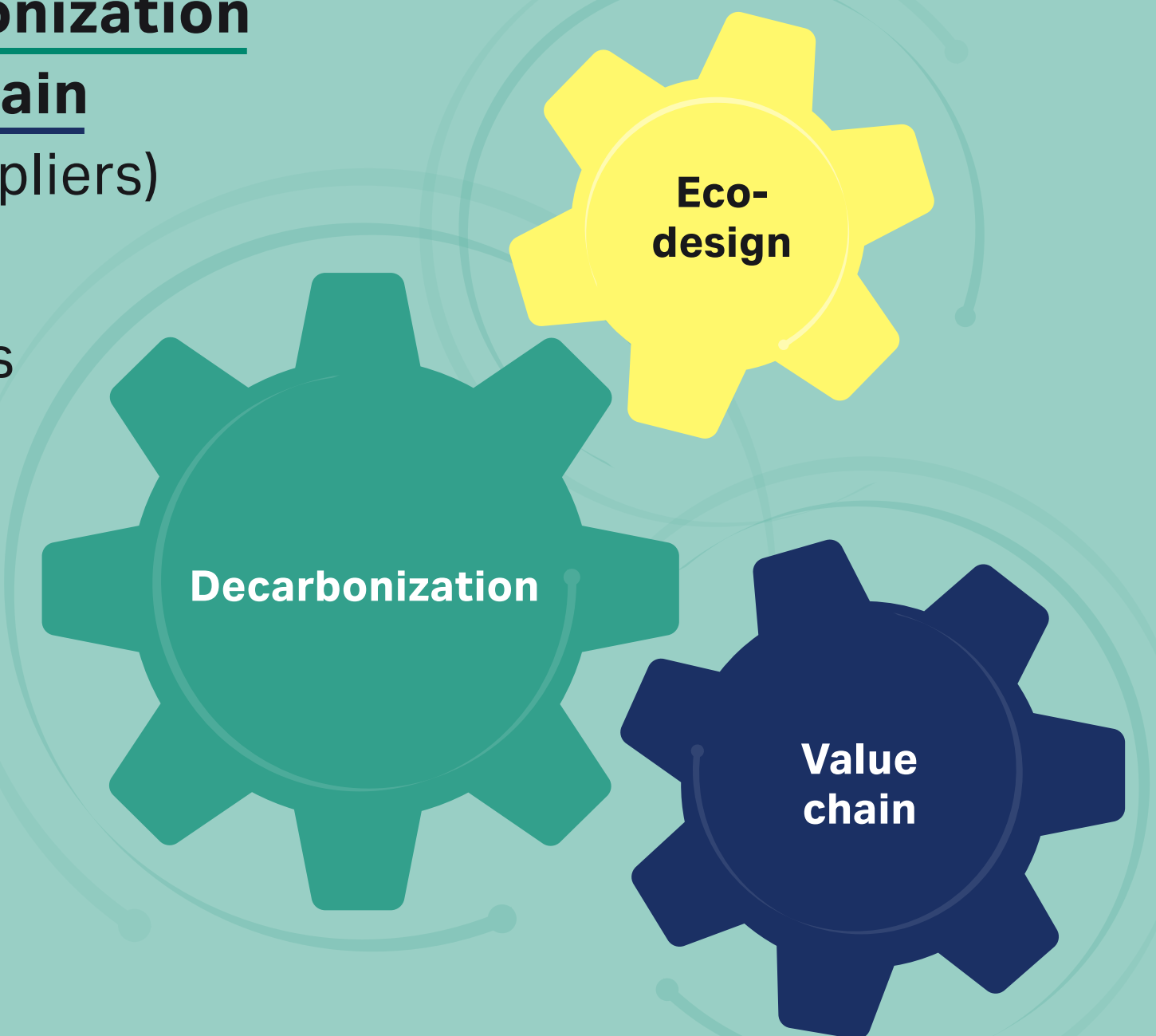
Net Zero

greenhouse gas (GHG) emission reduction targets.

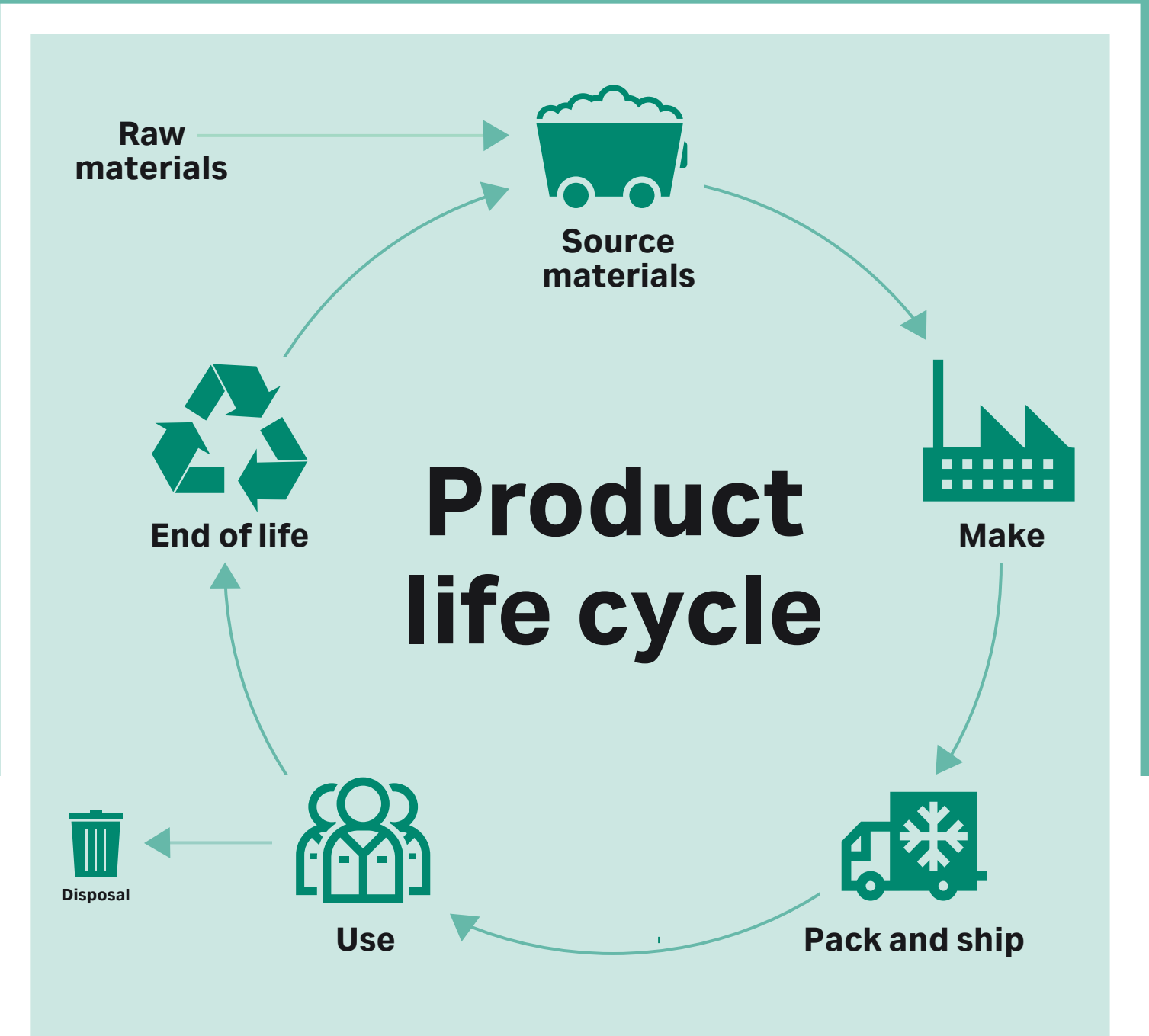
- Science-based targets
- Near term targets within five to ten years
- Net Zero targets by 2050

To reduce CO₂ emissions by 90%, we will

- Lead with eco-design and product transparency
- Accelerate decarbonization across the value chain (customers and suppliers)
- Build a culture of sustainability across the business



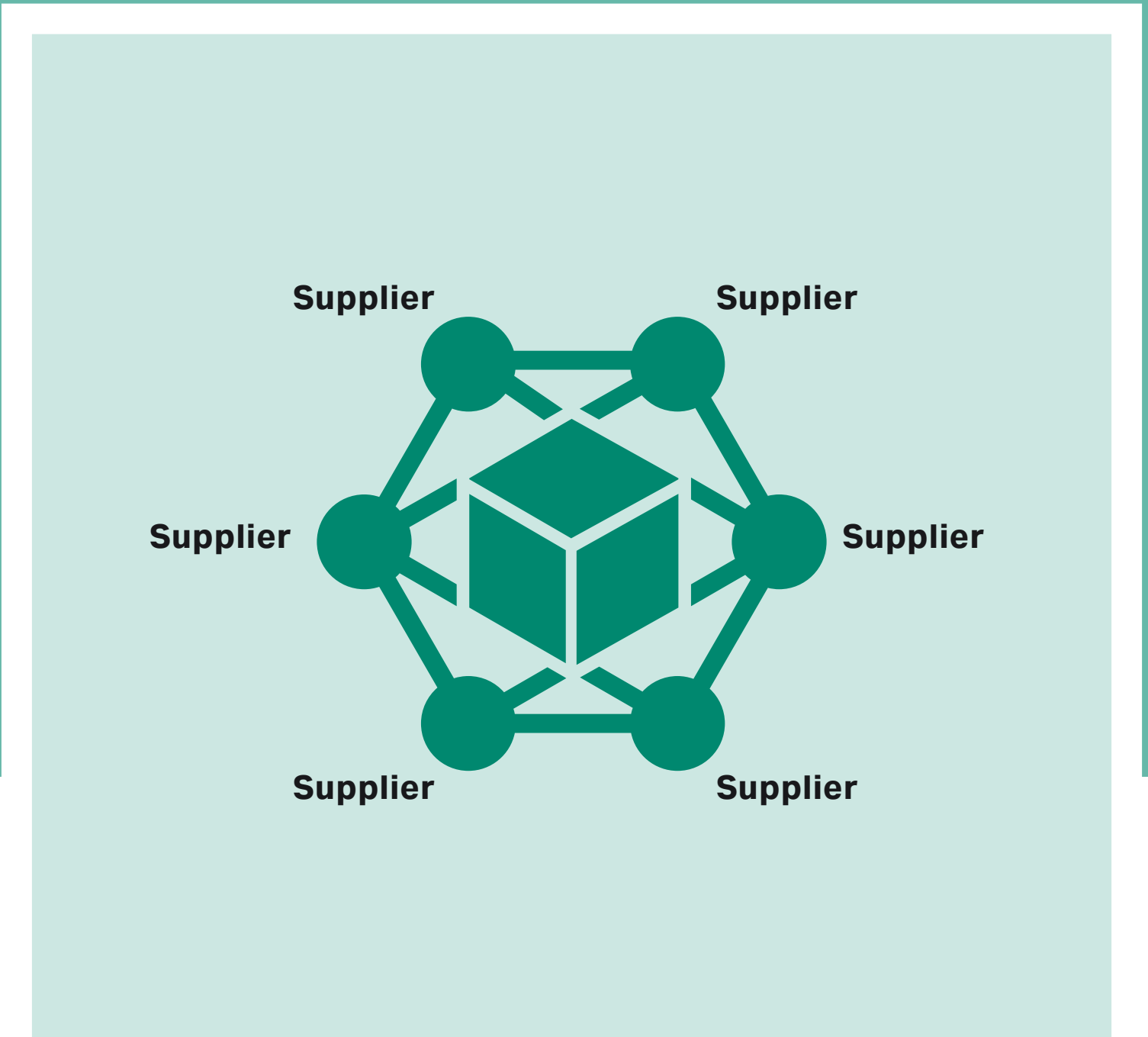
Progress that makes us proud



Product innovation

Mapping environmental impact

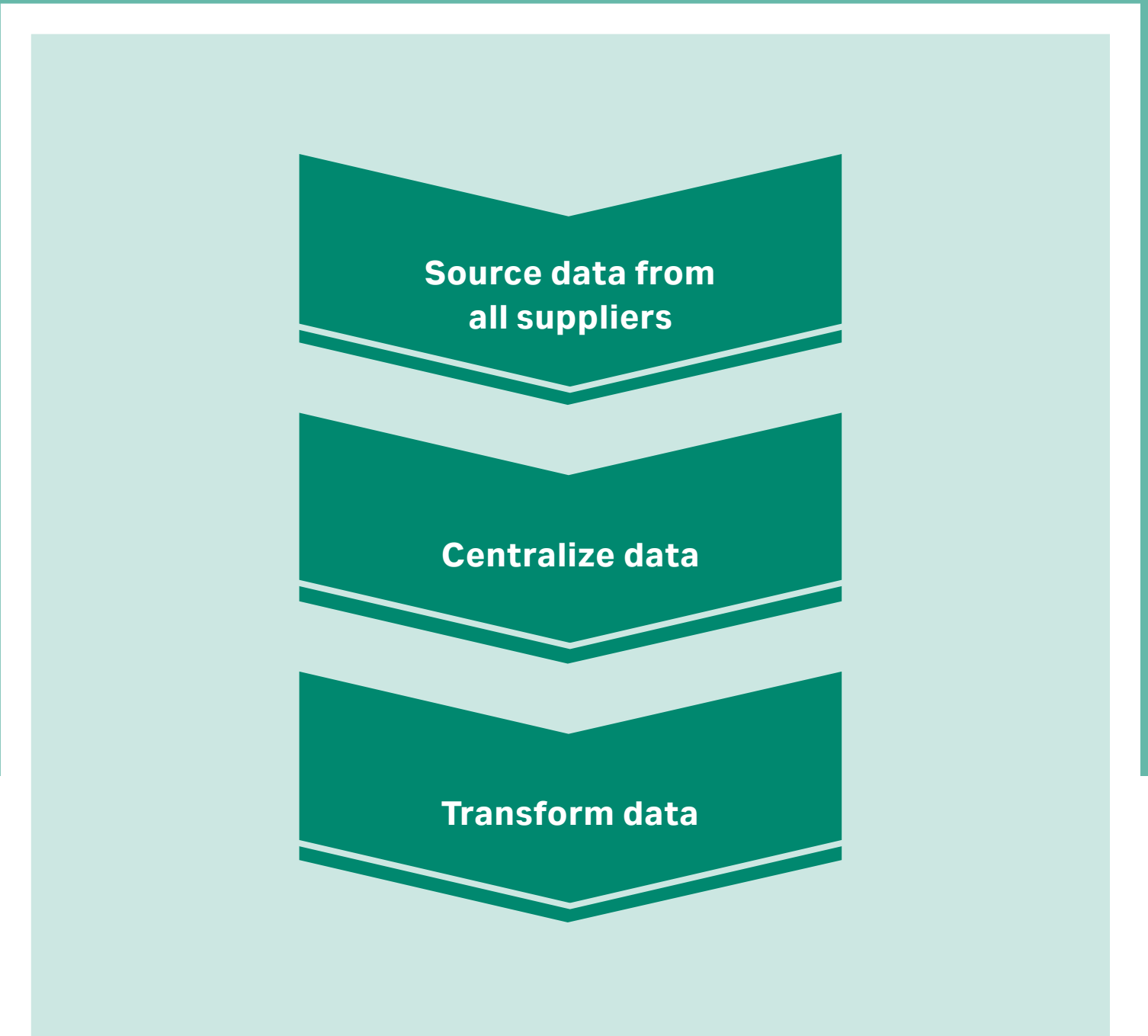
Reducing product CO₂ emissions and creating new customer value by considering environmental impacts in all phases of the product's life cycle.



Healthier supply chain

Partnering for our planet

Our responsible sourcing program creates a chain of suppliers that are transparent by completing EcoVadis assessments, and are motivated by their own environmental and social impacts.



Digital enablement

Piloting a carbon management platform

Piloted a new carbon management system to help us meet customer requests and regulatory requirements, as well as facilitate reporting and create actionable insights.

7 of 11

Business units are developing product carbon footprints (PCFs)

\$1B

Our net green spend — the share of spend from suppliers assessed as high sustainability performers (55+ rating)

Successful

Implementation at largest manufacturing site

Steps towards a reduced carbon footprint

We promise to tackle climate change head on. Through energy efficiency gains, shifting to renewable electricity, smart purchasing decisions, and rethinking transport, we are cutting our CO₂e emissions.

-33%

absolute reduction in Scope 1 and 2 emissions since 2019

96%

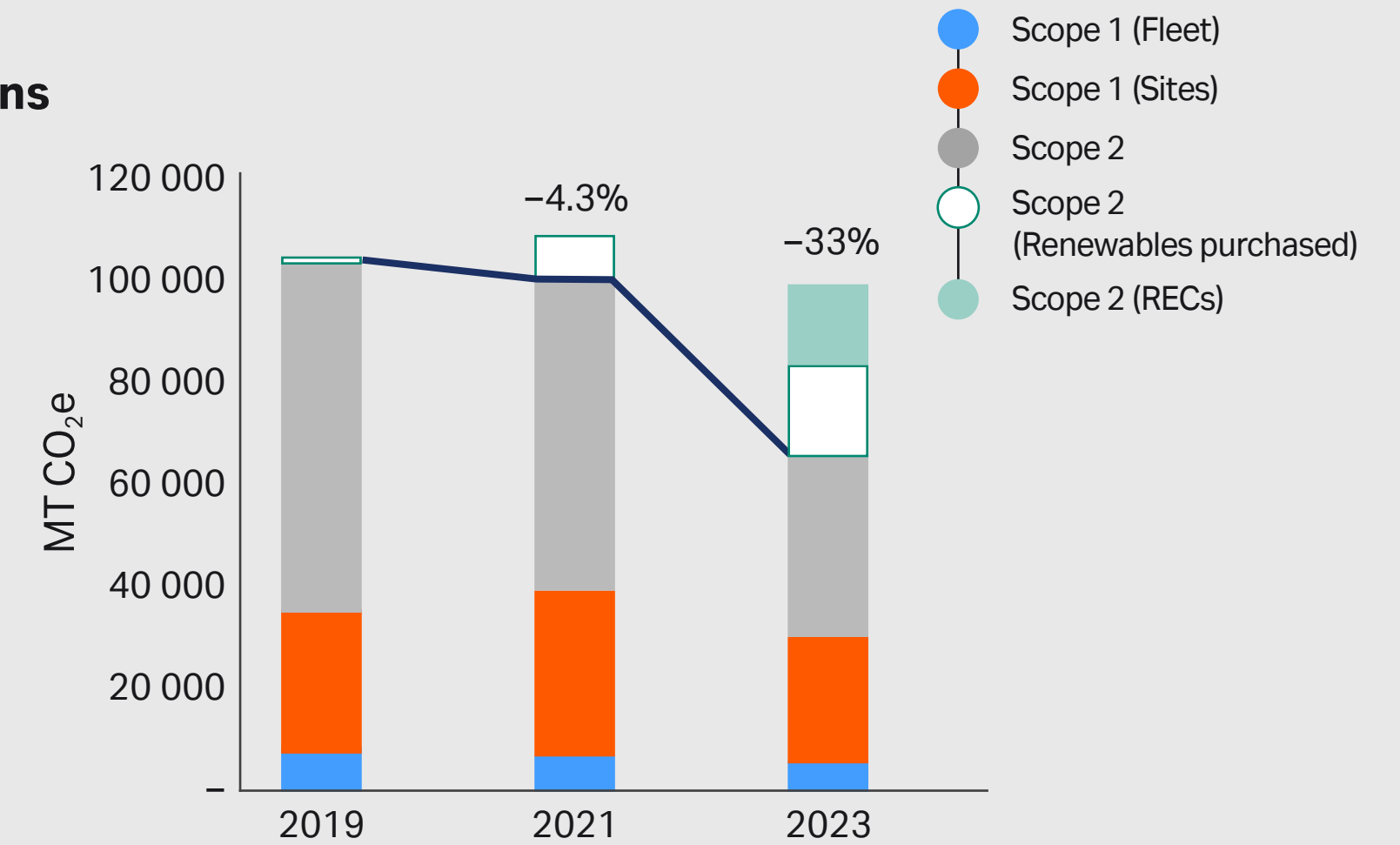
of manufacturing sites under our operational control use 100% renewable electricity

33%

of our EMEA fleet vehicles are fully electric

Scope 1 and 2 reductions

The largest contributors to our Scope 1 and 2 emissions reductions were two-fold — purchase of renewable energy credits (REC) and combined effect of 20 energy kaizens* conducted last year. Combined kaizen efforts led to a reduction of 1876 tonnes of CO₂ and a \$1.1 M reduction in utility costs all from energy optimization.



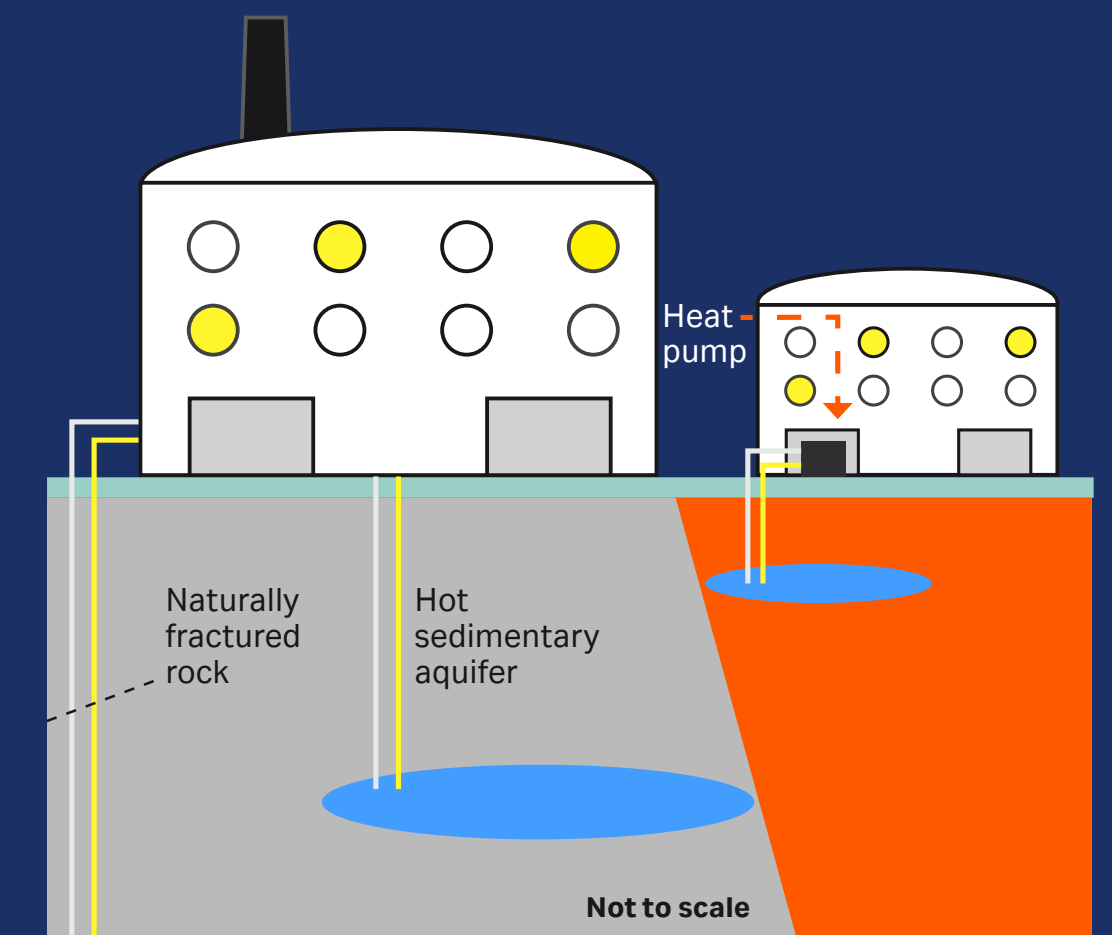
Umeå site spotlight

Bye-bye Scope 1 and 2 emissions

Umeå shifted to 100% renewable electricity, installed geothermal heating, prioritized energy-efficient machinery, and further reduced CO₂ consumption by at least 10% during their energy kaizen. During the kaizen, they signed a supplier contract for the use of 100% fossil-free district heat, which resulted in an annual CO₂ reduction of 88%.

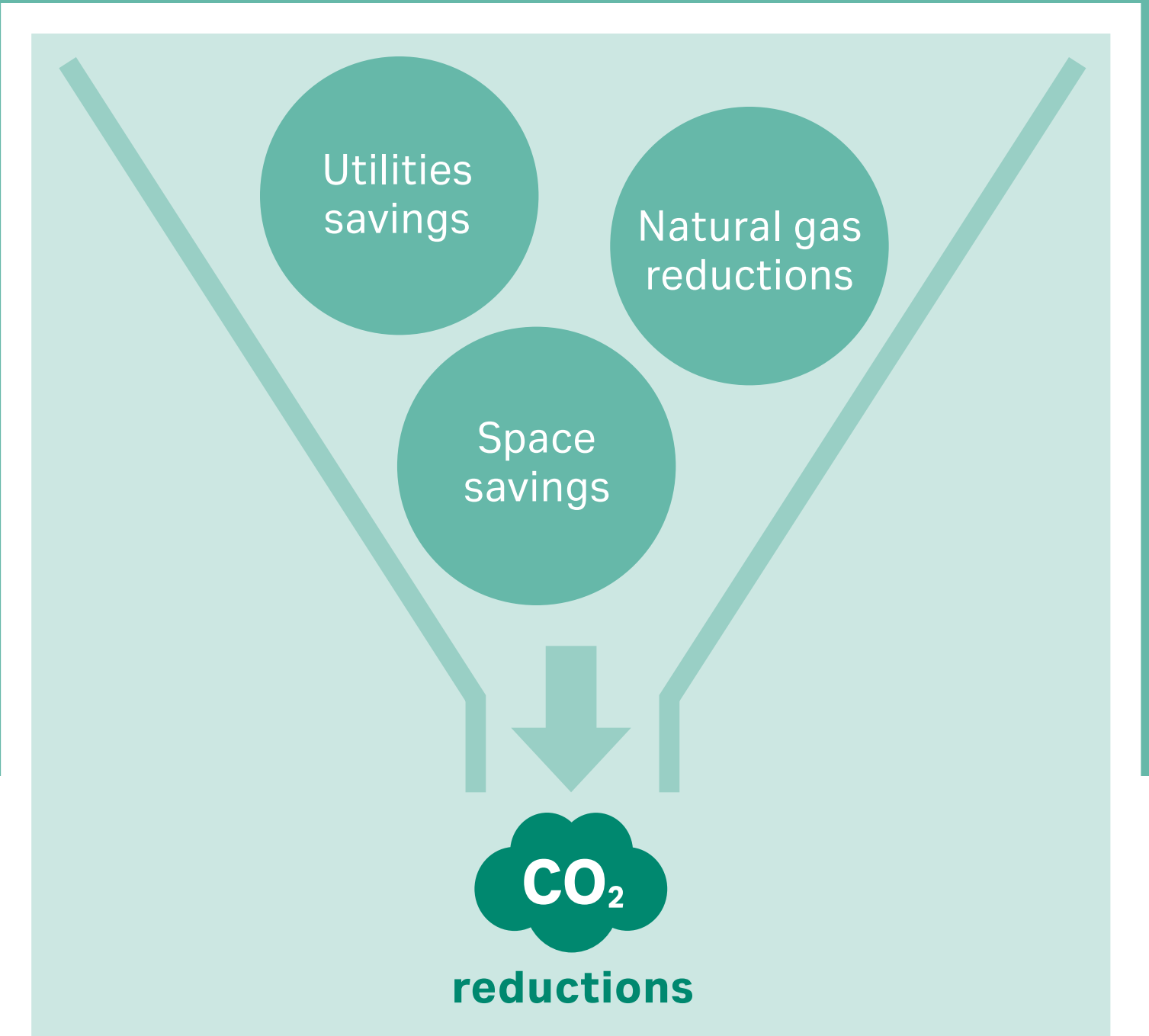
100%

Fossil fuel free



* Kaizen is a Danaher Business Systems (DBS) tool used to drive a continuous cycle of innovation and improvement.

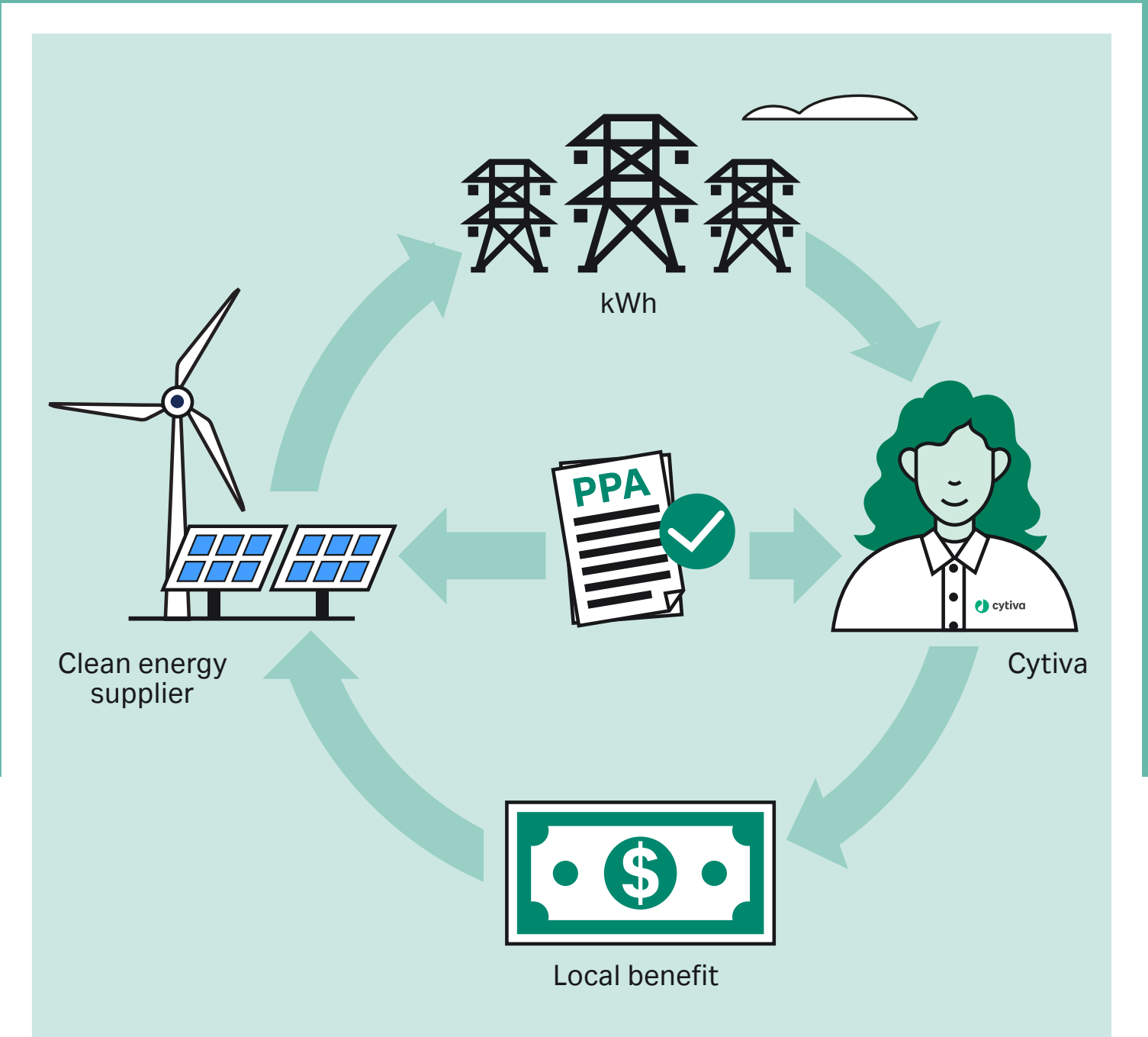
Progress that makes us proud



Scope 1 emissions

Heating less drives benefits

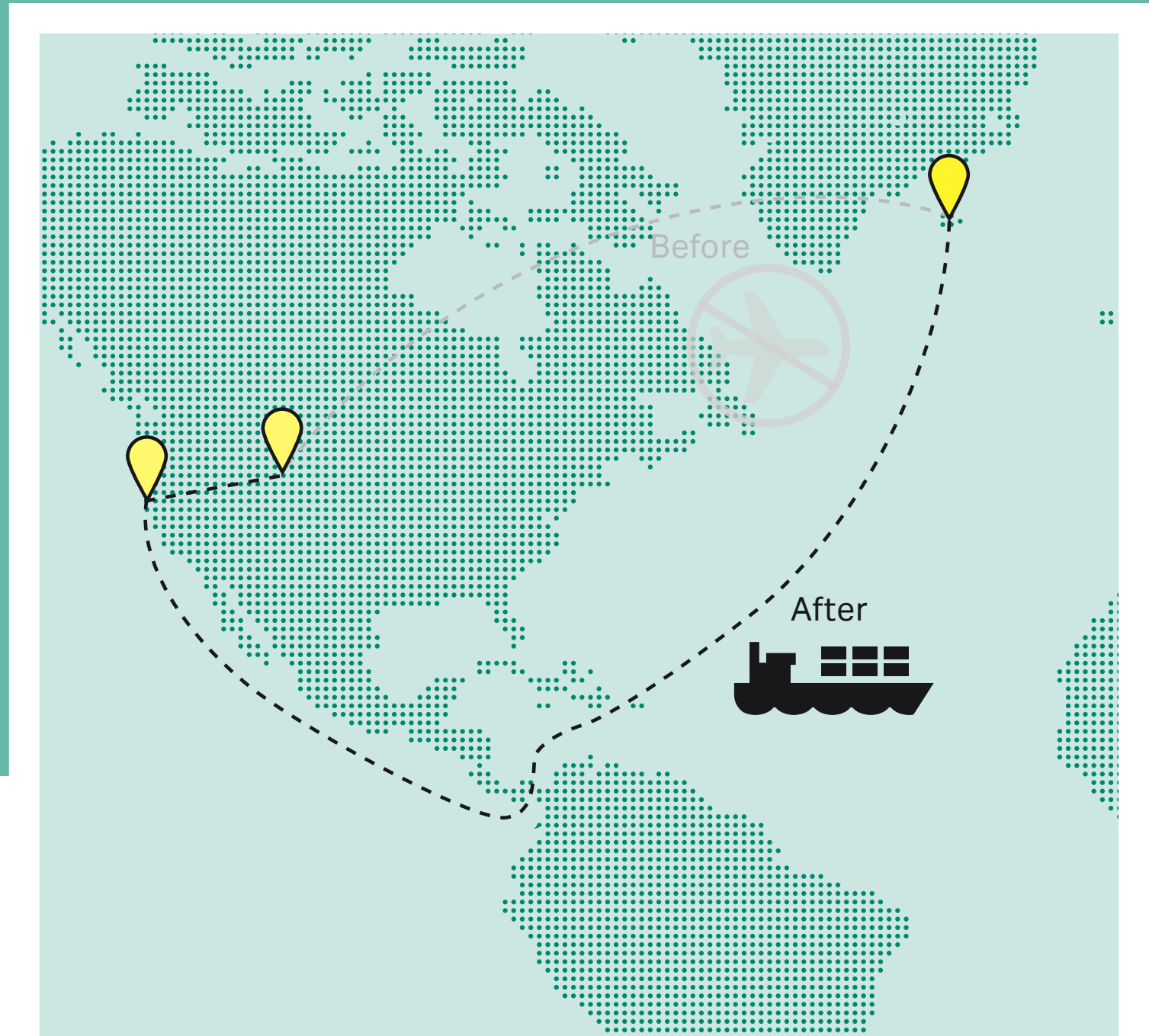
Our Ilfracombe site changed and revalidated how they produce one type of filter by omitting the need for hot leachate, a process that needs heated water to help remove substances from solids.



Scope 2 emissions

Sourcing clean energy

Renewable energy credit prices are increasing due to limited supply so we sourced a power purchasing agreement (PPA) for our Muskegon site.



Scope 3 emissions

Going airless with a customer

We switched product shipments in temperature-controlled containers from air to ocean shipments while ensuring product quality wasn't affected by longer delivery times.

90%

reduction in Scope 1 CO₂ emissions at Ilfracombe

LocalPricing

benefits gained: new jobs,
additional renewable energy for grid

locked in for long term
CO₂ cost savings

1700 tonnes

of CO₂ saved per year (equivalent to
4420 economy flights Amsterdam — Rome)

Progress that makes us proud



Water

Continually improving

While conducting a water kaizen, Tonglu associates identified opportunities by visualizing and tracking the benefits of water efficiency gains, such as increasing the recycling rate to 86%.

3804

m³ of water consumption reductions identified (equivalent to > 4 million one liter bottles)



Waste

Managing our own waste

Cytiva applies the reduce, reuse and recycle ideology to our own waste management — including plastics and chemicals like isopropyl alcohol (IPA).

40%

reduction of IPA hazardous waste identified at Cardiff, UK

>13

tonnes of plastic waste shredded and recycled at Westborough, US



Packaging

Eliminating polystyrene boxes

Cytiva is eliminating polystyrene (Styrofoam) from secondary packaging by using ClimaCell® liners as the new plant-based, recyclable, cold storage shipping solution.

20 000

polystyrene boxes no longer sent to customers. Global rollout will eliminate an additional 40 000 boxes. (~71 shipping containers in total)

Environmental data

Cytiva included all manufacturing sites and any sites that are greater than 2000 m² in which we have operational control; and combined make up over 95% of Cytiva's Scope 1 and 2 CO₂ emissions.

	2019	2021	2023
Total GHG emissions, Scope 1 and 2 (tonnes CO ₂ e)	96 510	92 378	64 913
Scope 1	27 681	31 998	29 874
Scope 2	68 829	60 380	35 045
CO ₂ Intensity (kgCO ₂ /k/USD)	29	15	9
CO ₂ Intensity compared to 2019 (%)	100%	−48%	−69%
Absolute CO ₂ emissions improvement (%)	0%	−4.3%	−32.7%
Total energy use (kWh)	341 321 970	405 705 578	410 429 013
District heating and cooling	23 630 720	23 434 511	24 227 949
District steam	59 017 240	81 879 214	62 990 741
Electricity (share not purchased)	147 390 543	97 790 581	106 425 248
Renewable electricity (purchased)	2 053 669	73 947 786	84 180 691
Renewable energy (generated)	0	0	170 811
Renewable energy credits	0	0	71 275 535
Diesel Fuel	148 274	624 734	269 178
Gasoline	366	3535	4147
Natural gas	107 797 631	104 385 968	128 751 410
Propane	1 283 525	23 639 249	3 408 838
Energy intensity (kWh/kUSD)	103	66	57
Energy intensity compared to 2019 (%)	100%	−36%	−45%
Energy intensity improvement (%)	0%	19%	20%

	2019	2021	2023
Total water withdrawal (by cubic meters)	2 792 685	2 781 350	2 830 351
Groundwater, Surface water sources	134 615	133 614	0
Purchased/municipal source	2 413 026	2 538 196	2 507 098
Surface water sources	51 745	112	0
Groundwater	193 298	109 428	323 253
Water intensity (m ³ /kUSD)*	0.846	0.454	0.393
Water intensity improvement (%)*			13%
Total waste generated (metric tons)		29 712	25 277
Hazardous waste disposed — incineration		198	422
Hazardous waste disposed — incineration with energy recovery		0	5673
Hazardous waste disposed — landfill		4228	5014
Regulated and hazardous waste disposed		411	190
Hazardous waste diverted — recycled		11 454	1611
Non-hazardous waste disposed — incineration		580	62
Non-hazardous waste disposed — incineration with energy recovery		0	3342
Non-hazardous waste disposed — landfill		1578	2840
Non-hazardous waste disposed — recycled		9371	6117
Non-hazardous waste to landfill — not diverted		1894	6

* Water intensity calculations are from 2021 to 2023 as we do not have revenue numbers from Pall Life Sciences in 2019.

33%

absolute reduction in CO₂ emissions from 2019

13%

reduction in water use (intensity) from 2021

15%

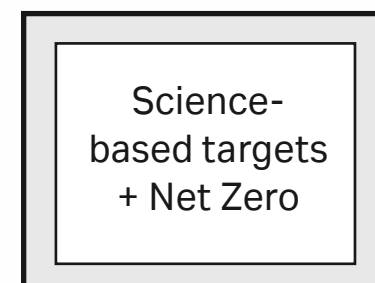
reduction in total waste generated since 2021

Our impact to the United Nations Sustainable Development Goals



Our commitment to sustainability

Thriving people, thriving planet, a resilient business. For Cytiva, these three aims are deeply connected. Achieving them is our ambition and our responsibility. That's why we commit to integrating respect for people and care of the environment in our decisions in ways that have a lasting impact on society, our customers, patients, and Cytiva associates.



This statement of our commitment to sustainability reflects our support of the UN Global Compact and its 10 principles on human and labor rights, environmental protection, and anti-corruption. It is echoed in relevant policies, procedures and strategic priorities across Cytiva.

Want to learn more?
cytiva.com/sustainability



[cytiva.com/sustainability](https://www.cytiva.com/sustainability)

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to learn more**





How is additive manufacturing delivering on sustainability goals?





**Additive manufacturing
reduces equipment size,
minimizes material costs
and improves
manufacturing efficiency.**



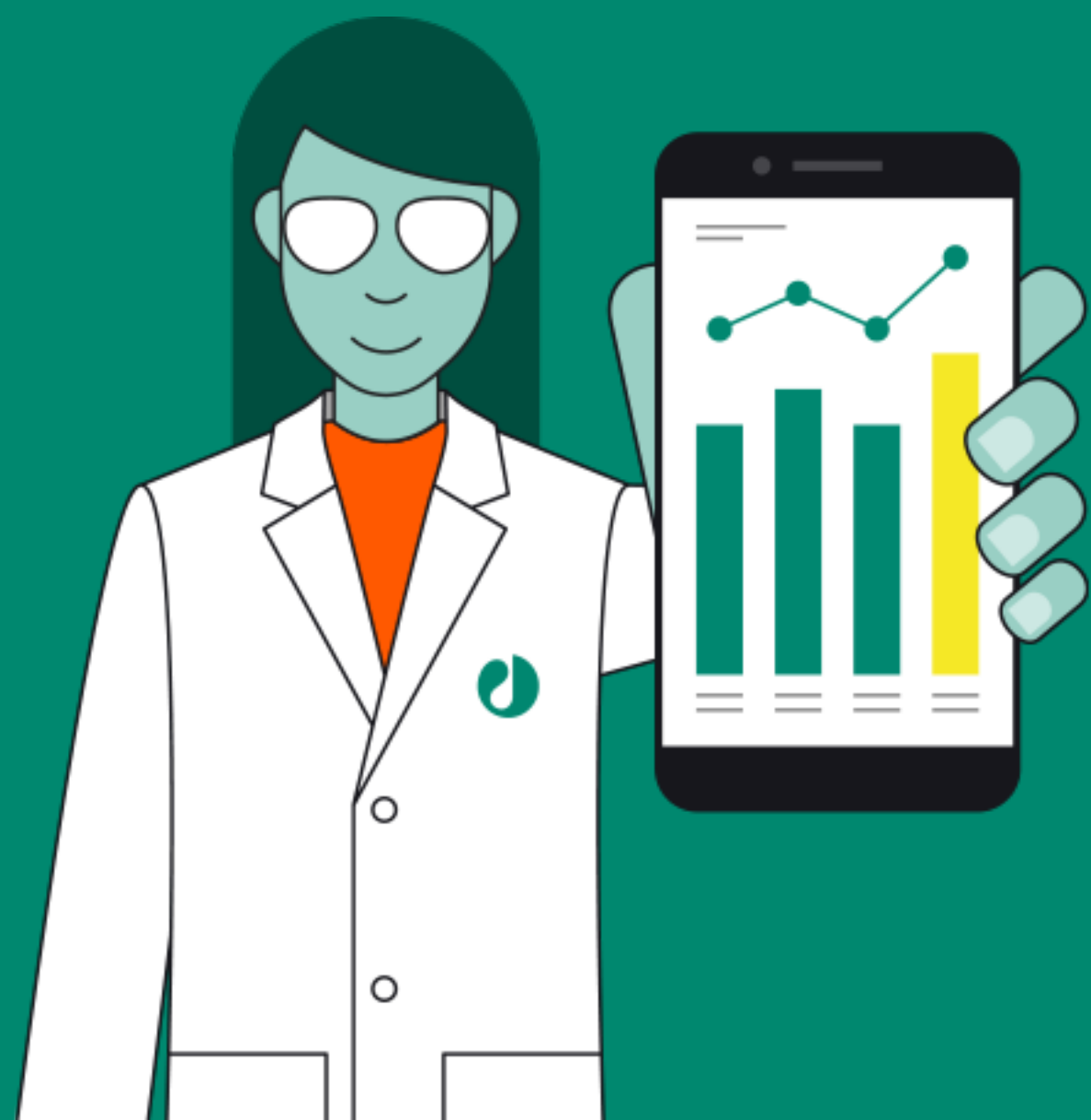


CONTRIBUTES TO LOWER EMISSIONS:

- **Only the necessary amount of material used.**
- **Less energy and water.**
- **Reduced resource consumption.**



**Additive manufacturing
proves that business
benefits and environmental
sustainability are
complementary, not
mutually exclusive.**





cytiva

“

Let's celebrate INWED, an inspiring day dedicated to promoting diversity in engineering! I highly recommend this profession to any young female. Together, let's break free from the confines of stereotypes and fearlessly pursue our passions, empowering ourselves to create a lasting impact in the field of engineering.

Chaewon Kim

Field Service Engineer



“
INWED is a great opportunity to create a community that supports and elevates the role of women in engineering. It is an inspiration for young women to pursue careers in engineering. I am proud to be involved in this positive change.

Supawan Wongchawangsub

Service Solutions Engineer
Emerging Market



“
I am delighted to be among the trailblazing female engineers at Cytiva in APAC. Despite initial awareness of being in the minority, I now prioritize personal growth, proudly contributing as an essential team member. Making a meaningful impact by leveraging my expertise and capabilities brings me great pride.

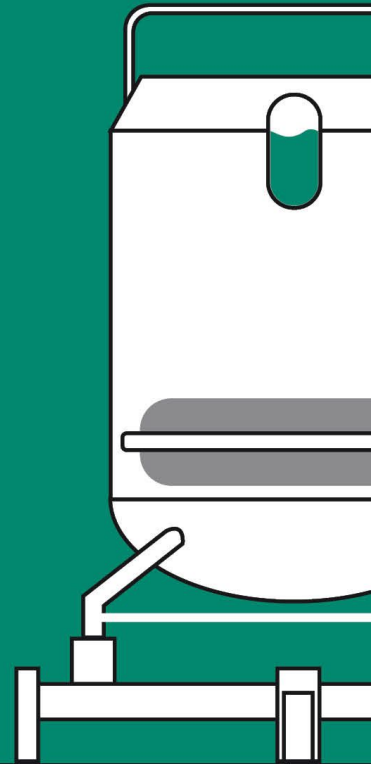
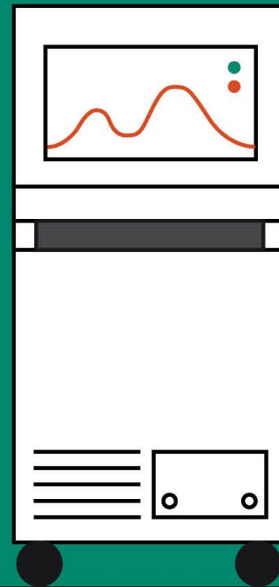
Geunhye Park

Field Service Engineer

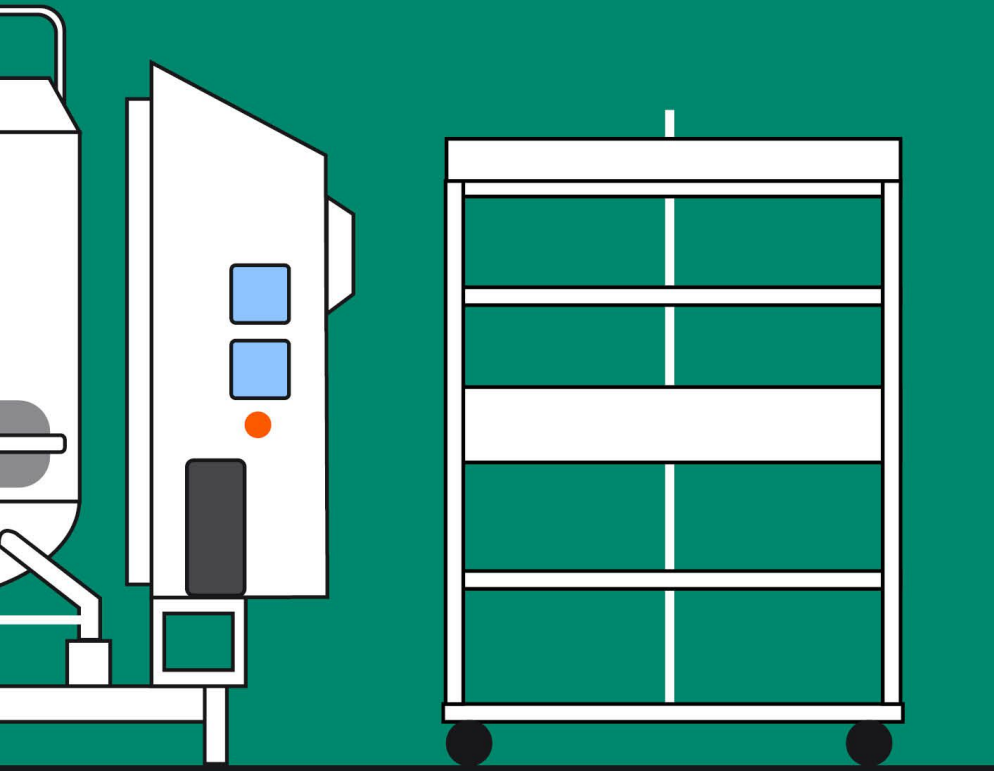




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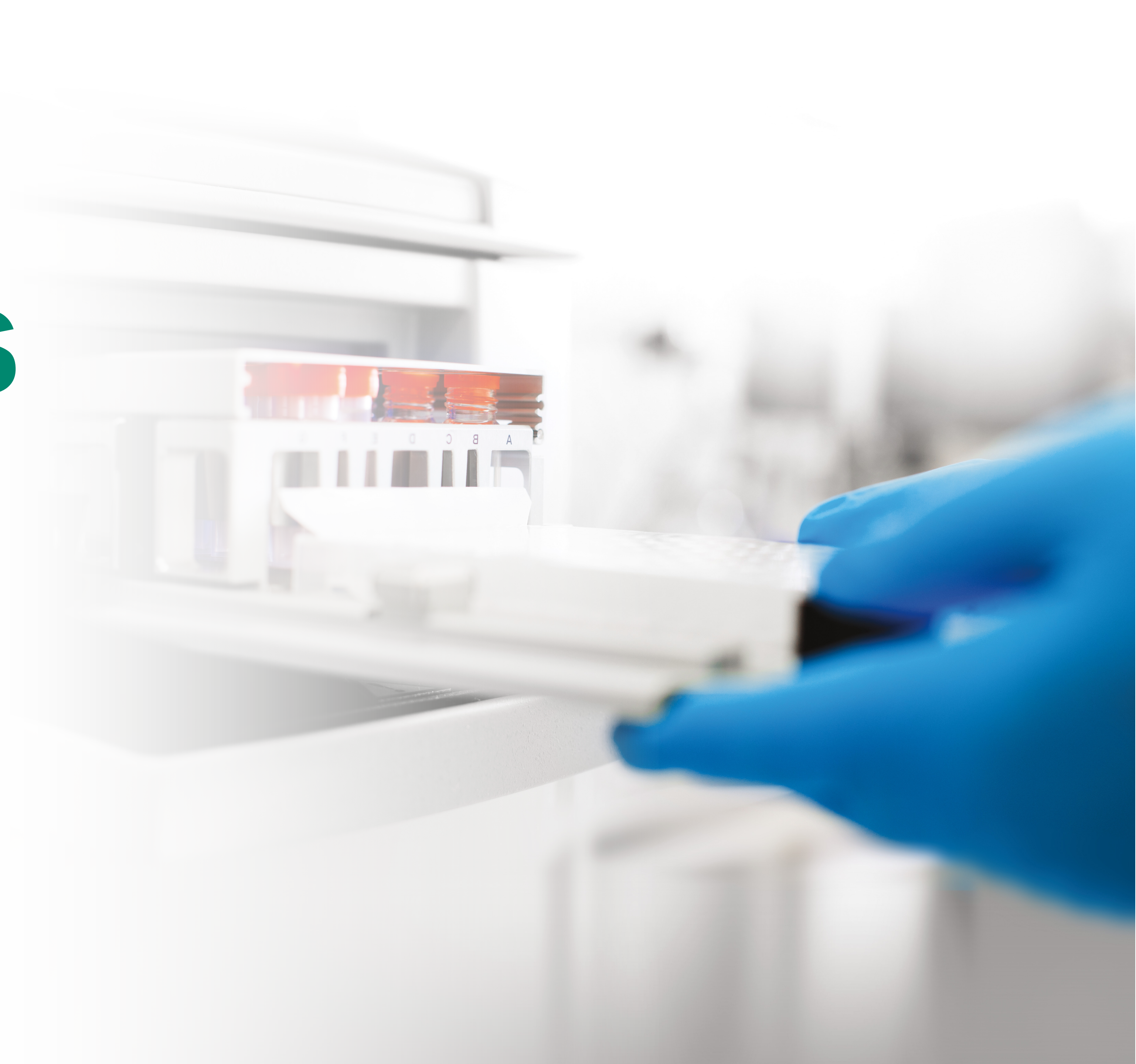




cytiva

Service solutions

OptiRun service solutions for research



Outcomes-driven service solutions

Life Sciences today. Global. Fast-paced. Driven by new technologies demanding a new kind of service and support. Our OptiRun™ service solutions are designed to help you achieve the outcomes you need for success.

Unlike traditional “break-fix” models, OptiRun service solutions set out to maximize the total productivity of your assets — to bring out the best in your people, to make the most of your processes, and to optimize the performance of your Cytiva instruments.

They’re innovative solutions that drive uptime, speed, efficiency, compliance, and user proficiency.

They’re also flexible. They can be customized at every stage of your asset’s lifecycle from installation to decommissioning — all while optimizing equipment life and total cost of ownership.

OptiRun is outcomes driven, for optimal productivity and the timeliness of your research.



TECHNOLOGY

Lifecycle management

- Equipment and network installation
- Maintenance and repairs
- IQ/OQ, requalification
- Asset performance management
- Depot repair services
- Instruments and software upgrades
- Instrument refurbish/donation



PROCESS

Advisory and consulting services

- Change control notification
- Spare Parts Advisory
- Validation support
- Relocation support



PEOPLE

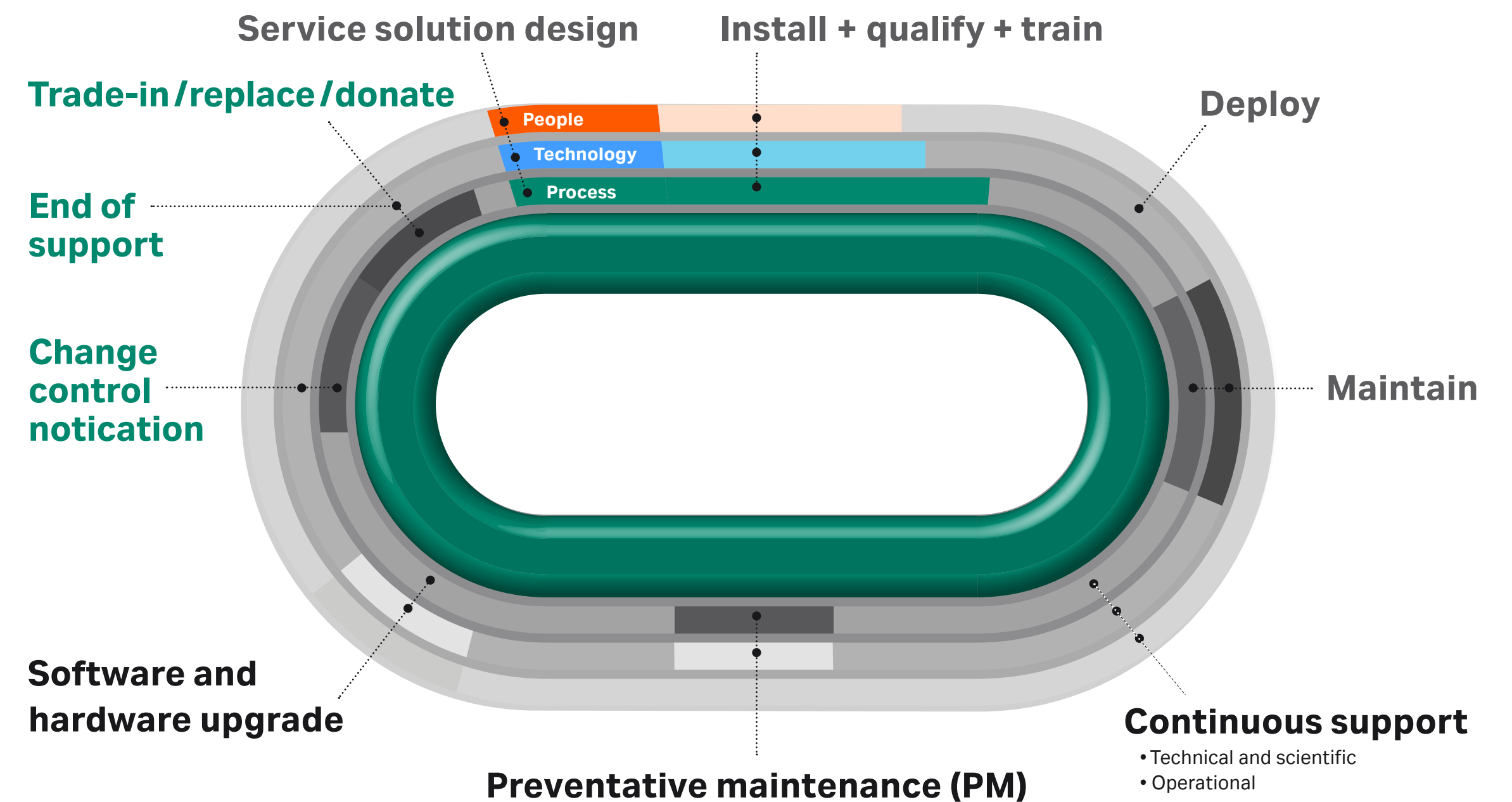
Scientific and technical support

- Rapid on-site response
- Resident engineer
- Application training
- Equipment training

For us, the moment of sale is a beginning, not an end

OptiRun LifeCycle

Whether your assets are a single bench-top instrument or a complex multi-lab solution, OptiRun service solutions are with you at every step of the life cycle. Our certified engineers and other highly-trained service specialists draw on many different forms of expertise to address your needs. They've been developed over a half century of collaborative partnership servicing thousands of systems around the globe.



The science behind our service

Our service experts and scientists are deeply involved in developing and enhancing our equipment. Drawing on their scientific background, understanding of applications, and insights gained from service cases, they create new tools that enhance your productivity and research outcomes.



Scientific expertise

Designing and servicing complex life sciences equipment requires a deep understanding of both the process and the science behind it. Our knowledge is based on extensive involvement in all aspects of life sciences research and drug discovery, everything from cell preparation, to affinity chromatography, to high-quality characterization of molecular interactions.



Science
Application
Big data

Engineering expertise

Our engineers and scientists work together to provide a complete solution. Nobody understands our equipment as well as we do — we design it, manufacture it under strict ISO standards, and test all critical components to establish maintenance protocols.

Software expertise

To optimize productivity and remove bottlenecks in the lab, we can assist you in everything from customized method writing and data evaluation to scientific support with full monitoring and troubleshooting capabilities tailored to your needs.

Compliance expertise

Our global presence gives us breadth as well as depth in regulatory knowledge and understanding.

Predictive data analysis

Through Cytiva, we are developing new service solutions to optimize asset availability and performance, drawing on Cytiva's operating system for the Industrial Internet, PREDIX™, and Asset Performance Management (APM) tool.

Customizing your strategy: OptiRun service portfolio

OptiRun service solutions offer a comprehensive range of options that can be customized to your asset-management needs and desired outcomes.

Preventative maintenance keeps your instruments properly tuned, calibrated, and configured. Our engineers are equipped with proprietary diagnostic and maintenance software. It allows them to interrogate your system, determine and perform detailed maintenance, and predict and replace any parts that may be likely to fail, optimizing uptime and reducing long-term costs. Meanwhile, our educational offerings ensure that your technology provided by Cytiva, is always used optimally by trained personnel.



Service as strategy

For optimal long-term productivity, you need peak performance from your equipment, your processes, and your people. OptiRun service offerings provide end-to-end support in all three areas, customized to your desired research outcomes.



People support



Technology support



Process support

Preventative maintenance

Preventative maintenance is critical to optimal outcomes and lies at the heart of our service offering.

Our field service engineers conduct a full diagnosis of your systems, following performance maintenance standards designed to restore them to factory specifications. They perform all necessary maintenance and verification to ensure peak operational quality. In addition to full preventative maintenance, we also offer maintenance based on the condition of your system.

Quality parts

Our quality parts are essential to optimizing the productivity and long-term dependability of your assets.

We engineer and rigorously test all our parts to ensure that their specifications are aligned with our instruments.

Relocation support

Whether it's a single piece of equipment or your entire lab instrumentation, only our engineers and field application scientists have the training and experience needed to safely and effectively relocate your assets.

We can assist in planning, equipment labeling, dismantling, packing, decommissioning, recommissioning and setup, as well as provide any regulatory documentation required as part of the move.



Training

Performance requires optimal use and users. We provide ongoing application, software, and user training to ensure your equipment functions correctly and is used and maintained appropriately.

We offer theoretical and practical courses for different application areas and individual systems in classroom, on-site, or online environments. We also provide user education through our application and scientific support functions.



Rapid response

Unscheduled events such as equipment failure can be costly and disruptive. OptiRun service solutions provide a range of options depending on your needs. They include priority access to technical or scientific phone support and rapid response options for scheduling site visits.

Conversely, where downtime is less critical to your operations, we can also structure offerings that trade off rapid response.



Flexible coverage

Whether you need full protection for total peace of mind or just insurance to cover major repairs, we have several service contracts to fit your unique needs.

If traditional asset-based agreements are not an ideal solution for your research facility, our new innovative contract models now offer lab-wide coverage, along with more flexible methods of payment.

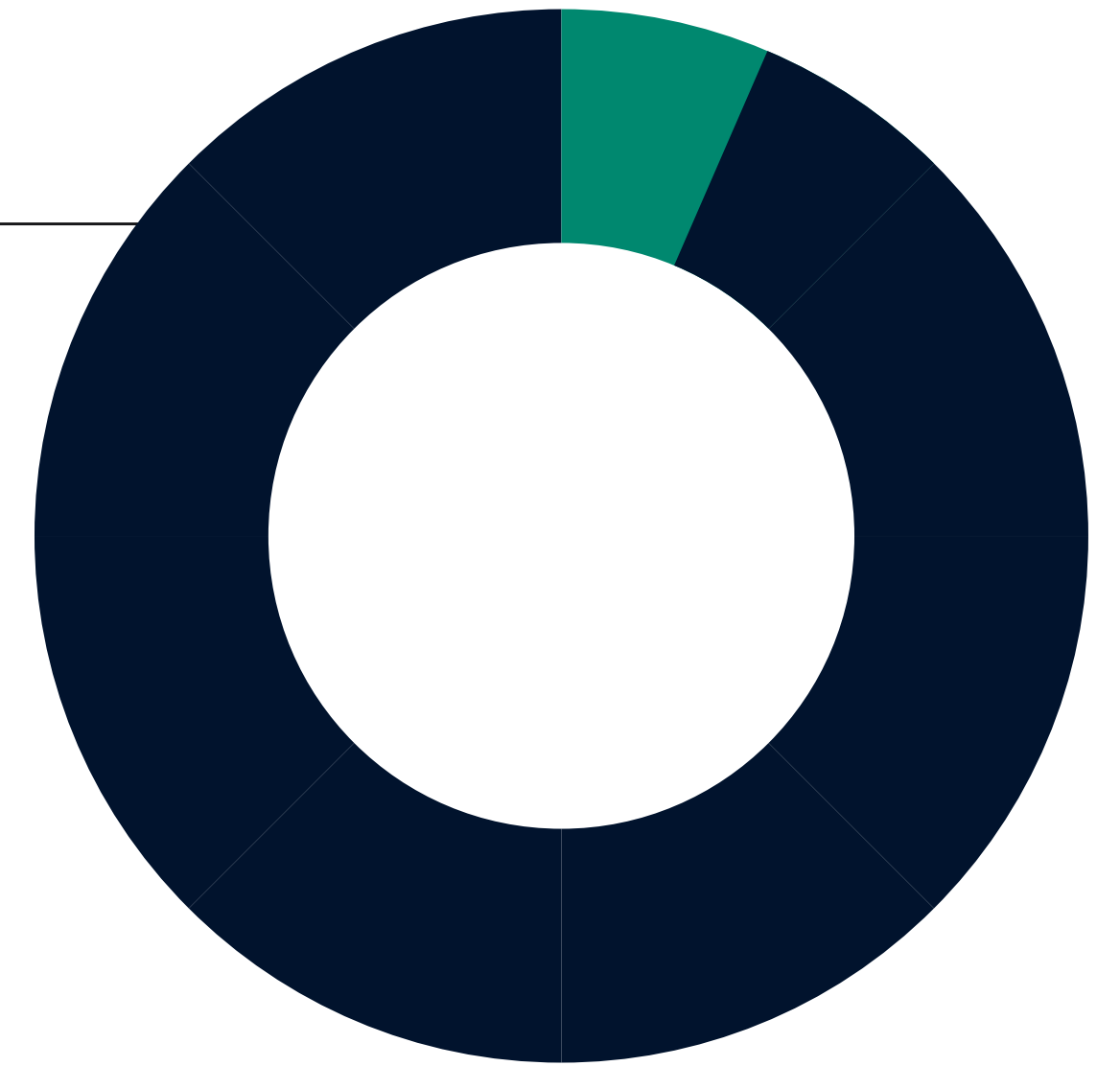
Our mission is your service satisfaction

From a force of field engineers, each with 1600 hours of training, 10 years average experience on Cytiva equipment, and a first-time fix rate of over 90%, we have some very satisfied customers.

Those satisfaction figures are not earned lightly. They result from a substantial annual tally of service visits, labor hours, and travel hours, along with the hard work of our experts and dedicated support team, who often sacrifice personal time to help solve our customers' challenges.

92%

satisfaction with services and support*



97%

satisfaction with field service engineers' expertise*



* Source: 2016 Customer Satisfaction Data



Customer support from Cytiva is second to none. Fantastic company to deal with."

—Academic customer, UK





Our Cytiva service engineer is completely awesome. He is very responsive and knowledgeable and does his best to complete repairs in a timely manner. He really takes extra effort to get our old Typhoon™ running. He is smart to carry enough spare parts that he does not have to make multiple trips. We are a central facility with many users and he has been a big help to us over the years."

—Academic customer, US



In our customers' own words

OptiRun service solutions help our customers achieve their desired scientific, operational, and financial outcomes. Here are some of the things they have to say.

Australia

"... was very professional and went out of his way to get the systems set up despite some complications due to ongoing renovations in the lab."

Canada

"The service engineer is really amazing! Very professional, competent and on top of that, nice!"

United Kingdom

"Customer support from Cytiva is second to none. Fantastic company to deal with..."

"The engineer was fantastic. Thorough and efficient and also very very helpful."

U.S. Central/Southeast

"Service tech is always thinking ahead of what our needs are and is always helpful in making suggestions to keep our instrument running smoothly."

"The Cytiva team, both on the phone and on-site are great! Everyone involved really tried to help and I appreciate it."

U.S. Northeast

"... Great technician - efficient and knowledgeable. "

"Sincere quick response and very friendly engineers/servicemen with professional expertise and willingness to go the extra mile to solve problems."

U.S. West

"... had timely arrival and service completion, and product expertise and knowledge were very thorough."

"The service engineer was very thorough and knowledgeable. He was able to get the unit set up and operational in a short period of time."

"The field engineer was extremely thorough in the P.M. service. The unit had not been meeting specs for some time and he persisted until it was restored to peak performance."

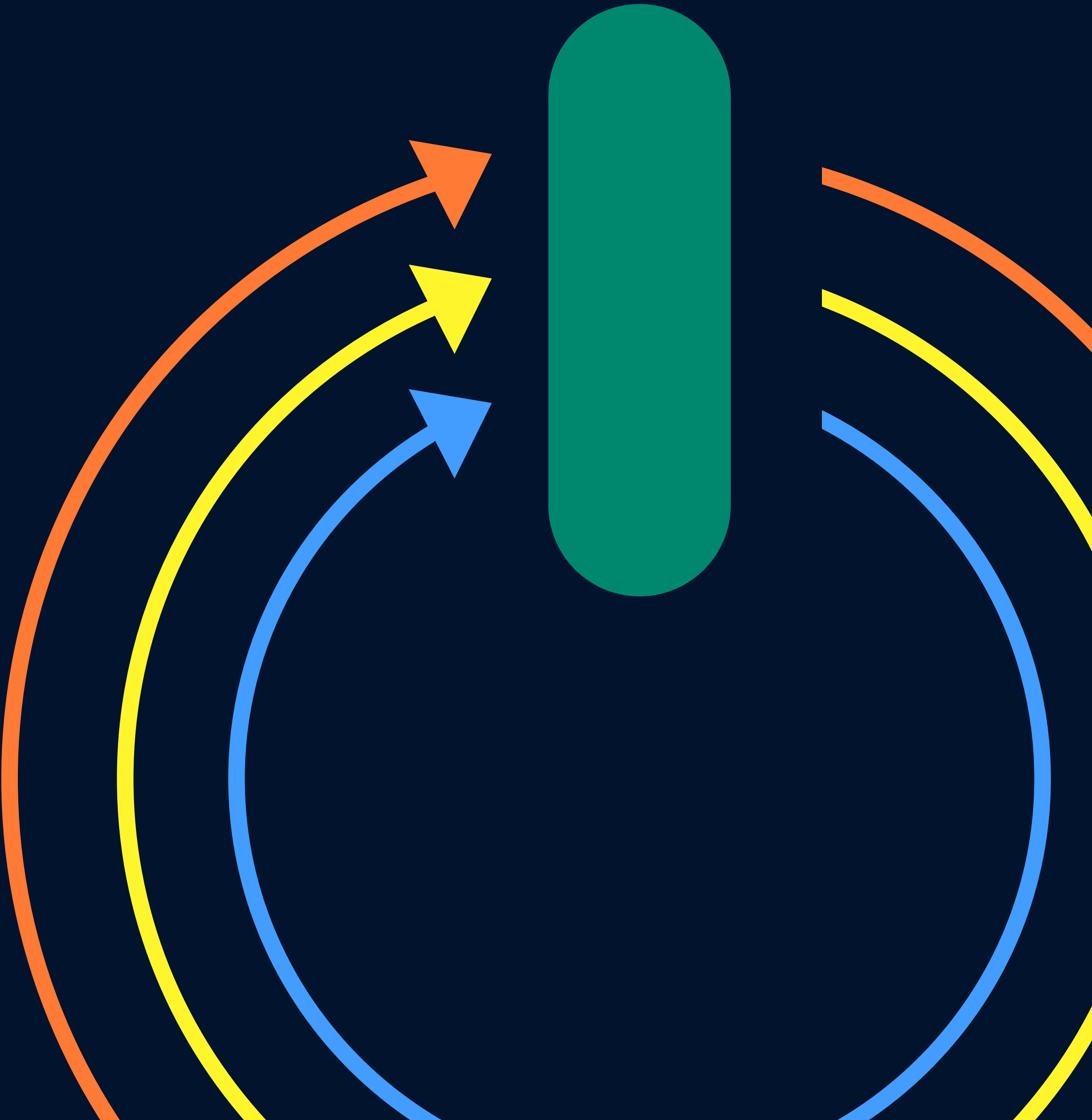
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CY12898-22Jul20-BR



OptiRun
connect
is like...



Having your own pit crew



OptiRun™ connect

Maximize your
uptime



Contact us
to learn more





**You might have
noticed we are
talking about
Scope 1, 2 and 3
emissions lately.**

What do these mean?
Here's your dictionary ...



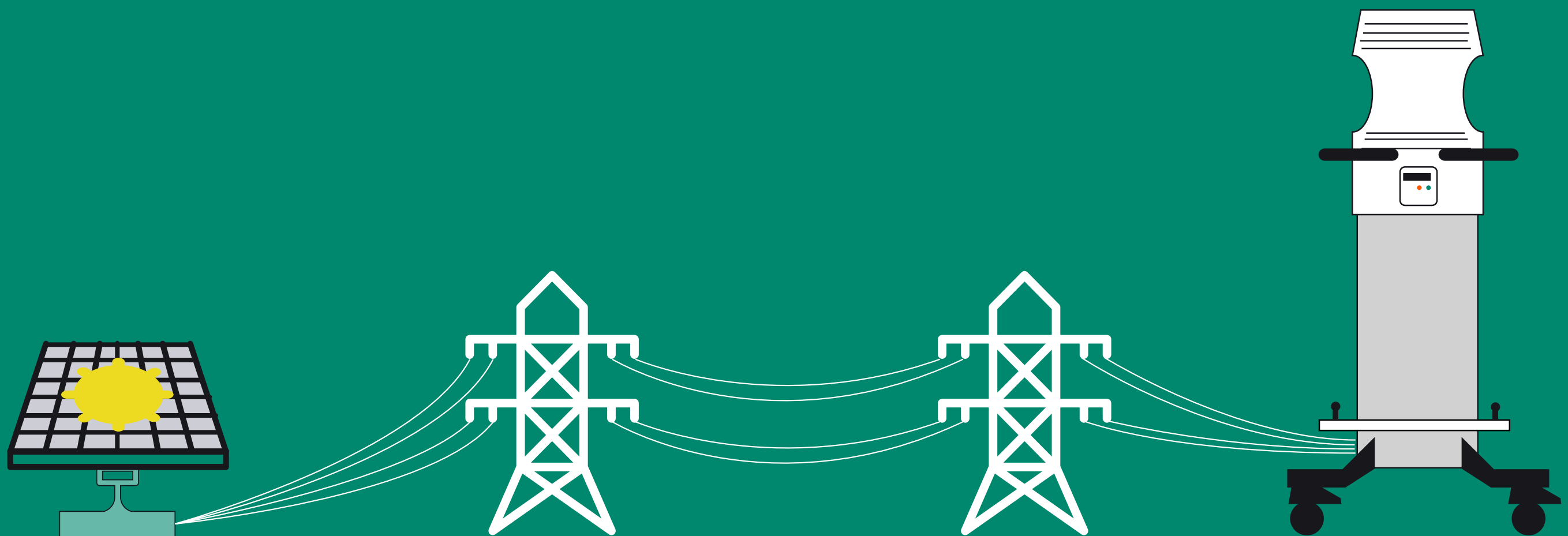
Scope 1: Direct emissions

Direct emissions we as a company make and put into the atmosphere.



Scope 2: Indirect energy emissions

The energy we purchase to operate - heating, cooling, electricity.



Scope 3: Indirect value chain emissions

All indirect emissions from
upstream and downstream
activities.





Our goal:

50.4% reduction in absolute
Scope 1 and 2 carbon emissions
by 2032



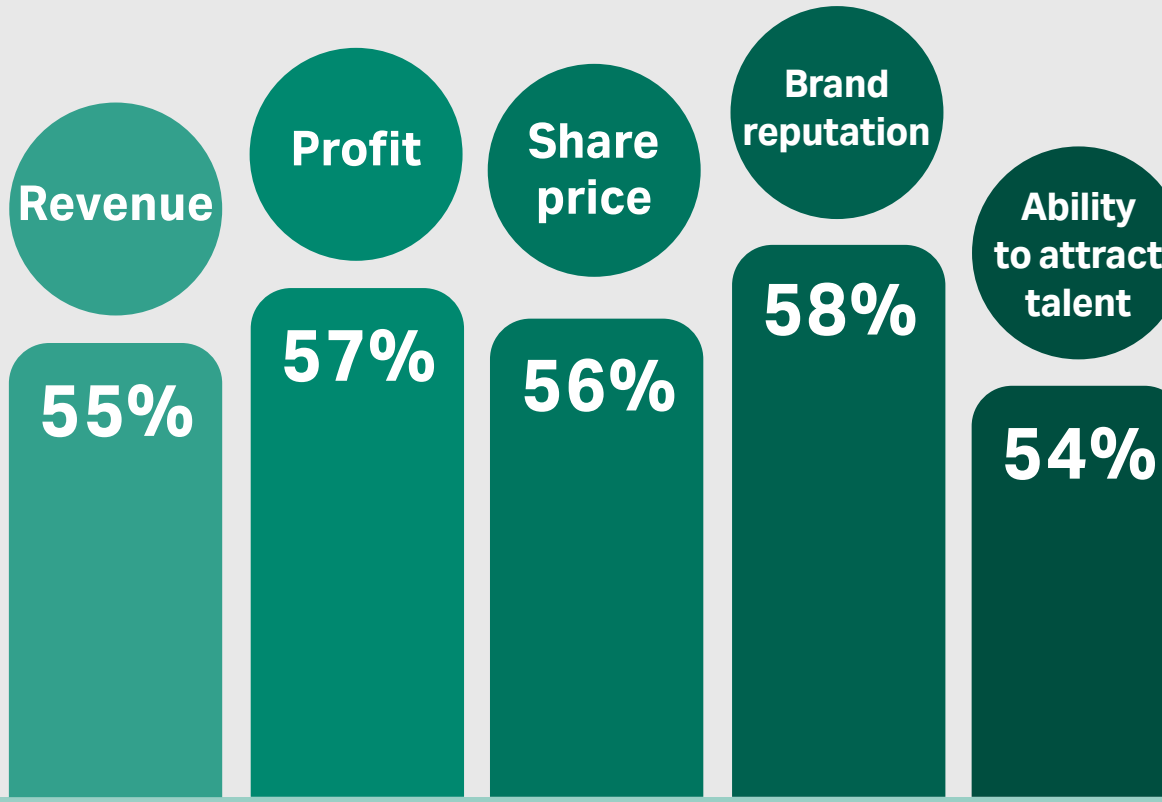
Transformative healthcare shouldn't come at the expense of our planet's health. Our customers – researchers, academia, and biopharma companies – are setting ambitious sustainability targets to tackle our industry's environmental impact.

So we asked **800 biopharma leaders** across the globe: what are they doing to improve sustainability? What obstacles are they facing? And how can the industry as a whole learn from the companies that are leading the way?

Here's what we found:

Sustainability is the number one priority for **62%** of biopharma companies over the next five years.

Over the past 12 months, companies leading in sustainability have experienced **increases in:**



But a lack of ability to accurately measure and manage **Scope 3 emissions** will make or break biopharma's sustainability progress.

Only **17%** of companies are confident in their ability to accurately measure Scope 3 emissions.

Supplier and industry **cooperation** can trigger systemic change.



69% of respondents say that weak collaboration across the value chain is a barrier to sustainability.

57% of companies leading in sustainability are working with suppliers and other stakeholders to campaign for better policy and regulation around sustainability, compared with 47% of late adopters.

Get more insights from the report at cytiva.com/sustainability-review

How is Cytiva helping? Learn more at cytiva.com/sustainability

What is a Clinical Trial?



What is a Clinical Trial?

Clinical trials are research studies performed on human volunteers to evaluate medical interventions, such as new drugs or medical devices. These trials are a cornerstone of medical research that help determine the safety and efficacy of new therapies. They provide crucial data that informs medical professionals, regulatory authorities, and the healthcare industry before a new treatment can be made widely available to the public.

Phases of Clinical Trials

Clinical trials typically follow a structured process, divided into several phases:

1. Phase I Trials: These are the first studies conducted in humans, usually with a small group of healthy volunteers. The primary goal is to evaluate the safety of the treatment, determine the appropriate dosage, and identify any potential side effects.
2. Phase II Trials: If Phase I trials show that the treatment is safe, Phase II trials test the treatment on a larger group of people who have the condition that the drug is designed to treat. This phase continues to assess safety but also begins to evaluate the treatment's efficacy—how well it works in treating the condition.
3. Phase III Trials: These trials involve hundreds or thousands of participants and are often conducted in multiple locations over the course of several years. The goal is to confirm the treatment's effectiveness, monitor side effects, compare it to standard treatments, and gather comprehensive data to ensure it can be used safely on a broader scale.
4. Phase IV Trials: After a treatment has been approved for public use by a regulatory authority, Phase IV trials may continue to monitor its long-term effects, safety, and effectiveness in a larger population over an extended period.

Why Are Clinical Trials Important?

Clinical trials play a critical role in advancing medical science. They allow researchers to test the efficacy and safety of new treatments under controlled conditions, which can lead to groundbreaking discoveries in healthcare. Without clinical trials, it would be impossible to know whether a new treatment is effective or safe for public use. For patients, clinical trials offer an opportunity to access cutting-edge treatments that are not yet available to the general public, especially for conditions with limited treatment options. Additionally, clinical trials help identify side effects of a drug or device, which ensures that any potential risks are understood and communicated to healthcare providers and patients.

Who Can Participate in a Clinical Trial?

Participation in clinical trials is voluntary, and each study has specific eligibility criteria, often based on demographic and health criteria including: age, gender, the type of disease, previous treatment history, and other pre-existing medical conditions. Researchers design these criteria to ensure the study yields accurate and meaningful results. Participants are typically monitored closely throughout the trial, and they may receive compensation for their time and travel.

Ethical Considerations

The safety and well-being of participants are top priorities in clinical trials. Every trial must follow strict ethical guidelines to protect participants, and they are overseen by regulatory agencies such as the Food and Drug Administration (FDA) in the United States or the European Medicines Agency (EMA) in Europe. Additionally, an independent ethics committee, known as an Institutional Review Board (IRB), reviews all clinical trial protocols to ensure participants' rights and safety are protected. Informed consent is a critical part of this process. Before participating in a clinical trial, individuals must be fully informed about the purpose of the study, potential risks of the drug, device, or procedures, benefits, and their rights as participants.

Conclusion

Clinical trials are essential to the development of new medical treatments and help improve patient care and advance healthcare. By participating in clinical trials, volunteers help shape the future of medicine and contribute to treatments that could benefit millions of people worldwide.

Enhance Sleep Quality with Melatonin



Unlock Better Sleep with Melatonin: A Natural Approach to Restful Nights

In our fast-paced world, many of us struggle to get the quality sleep our bodies need. Stress, irregular schedules, blue light exposure, and even diet can disrupt our sleep patterns, leading to restless nights and groggy mornings. Fortunately, there's a natural solution that may help: melatonin. If you're seeking better sleep, melatonin could be the answer to resetting your body's internal clock and promoting restful, rejuvenating sleep.

What is Melatonin?

Melatonin is a hormone produced naturally by the pineal gland in the brain. It plays a critical role in regulating our sleep-wake cycle, or circadian rhythm. This rhythm, which helps the body know when it's time to sleep and wake up. The production of melatonin is influenced by light exposure—levels typically rise in the evening as it gets dark and decrease in the morning when we're exposed to sunlight. Unfortunately, modern life doesn't always align with our natural rhythms. The use of electronic devices, late-night work schedules, and exposure to artificial light can interfere with melatonin production, making it harder for us to fall asleep at night.

How Melatonin Supplements Can Help

Melatonin supplements are widely available and often used to help treat sleep disorders like insomnia or to adjust to new time zones. By supplementing your body's natural melatonin, you can encourage sleep, especially if your internal clock has been thrown off.

Benefits of Melatonin for Sleep

1. **Improves Sleep Onset:** Melatonin can be particularly effective in helping people fall asleep faster. Studies suggest that melatonin supplements can reduce the time it takes to fall asleep, especially for those who have a delay in melatonin production.
2. **Helps with Sleep Disorders:** Melatonin can be beneficial for people with specific sleep disorders like insomnia or delayed sleep-wake phase disorder (DSWPD). It has also been used to help manage sleep disturbances in shift workers and individuals with jet lag.
3. **Promotes Better Sleep Quality:** While melatonin may not necessarily make you sleep longer, it can improve the overall quality of your sleep, leading to more restful and refreshing nights.
4. **A Natural Sleep Aid:** Unlike some over-the-counter sleep medications, melatonin supplements are natural and have fewer side effects. They are not habit-forming and generally have fewer risks compared to traditional sedatives.

Tips for Using Melatonin Safely

If you're considering taking melatonin to improve your sleep, then it's important to discuss its use with your healthcare professional first to confirm you are taking it for the best results. Here are a few tips:

- **Start Small:** Begin with a low dose, usually between 0.5 mg to 3 mg, taken 30 minutes to an hour before bedtime. Some people may need a higher dose, but it's best to start small and adjust as needed.
- **Short-Term Use:** Melatonin is most effective when used for short-term sleep problems. If you're dealing with chronic insomnia, it's a good idea to consult a healthcare provider for additional guidance.
- **Establish a Routine:** While melatonin can help, it's also important to maintain a consistent bedtime routine. Avoid screens and bright lights at least an hour before bed, keep your sleeping environment cool and quiet, and try to go to bed and wake up at the same time each day.

Natural Ways to Boost Melatonin

In addition to supplements, there are natural ways to enhance your body's melatonin production:

- **Limit Blue Light Exposure:** Reduce exposure to screens (i.e., phones, tablets, and computers) in the evening.
- **Get Daylight Exposure:** Spending time in natural sunlight during the day can help regulate your circadian rhythm.
- **Consider Your Diet:** Certain foods like cherries, grapes, and almonds contain small amounts of melatonin. Including these in your diet might provide a slight boost to your natural melatonin levels.

Conclusion

Melatonin is generally a safe and effective method to enhance your sleep quality, especially if your sleep cycle has been disrupted. By following the proper dosage in alignment with your healthcare professional and maintaining a healthy sleep routine, melatonin can help you fall asleep faster, improve the quality of your rest, and wake up feeling more refreshed. For those seeking a natural solution to sleepless nights, melatonin may be the key to unlocking better sleep.

Age in Place for Seniors



Strategies to Help Seniors Age in Place Safely and Comfortably

Aging in place—remaining in one's home throughout life—has become an increasingly popular choice for seniors. Familiar surroundings, personal autonomy, and maintaining a sense of community are a few reasons why many older adults prefer to stay in their homes as long as possible. However, aging can present challenges that make living independently more difficult. With thoughtful strategies and support, seniors can safely and comfortably continue living in their homes.

Here are some key approaches to help seniors age in place successfully:

Home Modifications

One of the most important steps to helping seniors live independently is making their homes safer and more accessible. As mobility declines, certain areas of the home can become dangerous. Consider the following modifications:

- **Grab bars and handrails:** Install grab bars in the bathroom near the toilet and in the shower, and handrails along stairs.
- **Wider doorways:** For seniors using walkers or wheelchairs, widening doorways may be necessary for easier movement.
- **Non-slip flooring:** Replace rugs and slick surfaces with slip-resistant materials to reduce fall risk.
- **Lighting:** Bright, motion-sensor lighting can help seniors navigate their homes more safely, especially at night.
- **Stairlifts or ramps:** For multi-story homes, stairlifts or ramps can be installed to ensure safer mobility.

These home modifications can drastically reduce the risk of falls and other accidents, making the home a safer environment for seniors.

Accessible Technology

Technology offers a variety of tools that can support seniors in aging in place. Some examples include:

- **Medical alert systems:** Devices such as fall detection pendants can immediately notify emergency contacts or services if a senior has a fall.
- **Smart home devices:** Smart thermostats, voice-activated assistants, and security systems can make daily living more manageable and enhance safety.
- **Telemedicine:** Access to virtual doctor appointments allows seniors to consult healthcare providers without leaving their homes.
- **Medication management apps:** These apps can remind seniors to take their medication on time, reducing the risk of missed doses or overdosing.

Embracing these accessibility technologies can provide peace of mind to both seniors and their caregivers.

In-Home Care Services

As seniors age, they may need assistance with daily activities such as bathing, dressing, cooking, and cleaning. In-home care services offer personalized help while allowing seniors to maintain independence in a familiar environment. These services range from occasional housekeeping assistance to 24-hour caregiving, depending on the senior's needs.

- **Home health aides:** Home aides can provide personal care, companionship, and basic health monitoring.
- **Meal delivery services:** For seniors who find cooking challenging, meal delivery services ensure they receive nutritious meals without the hassle of preparation.
- **Transportation services:** Specialized transportation for medical appointments, shopping, and social activities ensures seniors can continue engaging with their community even if they are no longer able to drive.

Community Support and Social Engagement

Staying connected to others is crucial for seniors' emotional well-being. Isolation can lead to depression, anxiety, and cognitive decline. Here's how to foster community and social interaction for seniors aging in place:

- **Local senior centers:** These centers often offer social activities, fitness programs, and learning opportunities for older adults.
- **Volunteer programs:** Engaging in volunteer work gives seniors a sense of purpose while helping them stay active and social.
- **Neighborhood networks:** Encourage seniors to build relationships with neighbors who can check in on them regularly.

Having strong social connections helps seniors maintain their mental health and prevents feelings of loneliness.

Financial Planning

Living independently at home requires financial foresight. Seniors should consider working with a financial advisor to ensure their savings, pensions, or investments are sufficient to cover potential healthcare costs, home modifications, and in-home care services.

Conclusion

In summary, helping seniors age in place involves a multi-faceted approach that combines home modifications, accessible technology, in-home care, community support, and financial planning. By implementing these strategies, seniors can enjoy a higher quality of life while remaining in their homes, surrounded by familiar comforts. With the right preparation and resources, aging in place can be a safe, viable option for many older adults.