

TRACERcenter

YOUR PATH TO PET
IS SIMPLE



PET IS FAST BECOMING VITAL TO PATIENT CARE

PET/CT is a hybrid imaging method

PET/CT combines the cutting edge technology of positron emission tomography (PET) and computed tomography (CT) to **provide functional imaging with anatomical precision**

PET/CT is being increasingly used in clinical practice

In recent years, PET/CT has **moved beyond research & development**. Today, PET/CT technology is in **widespread clinical use** for oncological imaging as well as for certain neurological and cardiac examinations. PET/CT scans are more and more being incorporated into clinical protocols and national cancer management guidelines.

PET/CT provides meaningful clinical and economic benefits

CLINICAL BENEFITS

PET/CT studies play a key role in clinical decisions, providing meaningful benefits in:

- Lesion detection
- Cancer staging
- Treatment planning
- Monitoring patient response to radiation therapy or chemotherapy
- Observing lesion removal
- Monitoring for disease recurrence

According to National Oncologic PET Registry (USA) data concerning 10,497 scans, **43.1% of patients had their treatment plan changed following PET scan results.**¹

ECONOMIC BENEFITS

PET/CT use saved ~\$1,800 per patient in a 2-year multicenter study in head and neck squamous cell carcinoma.²



PET IS FAST BECOMING VITAL TO PATIENT CARE

THERANOSTICS

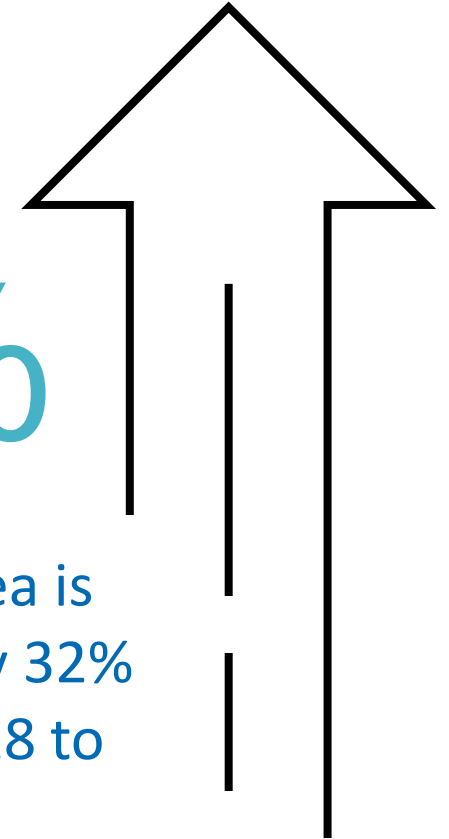
PET/CT is a **constantly evolving** field and **theranostics** represents one of the latest developments.

Theranostics is the combination of diagnostic imaging and treatment therapy by using the same targeted molecule to deliver a radiopharmaceutical and a radiotherapeutic to specific parts of the body.

A type of **personalized medicine**, theranostics enables visualization of potential targets which can help **predict** if a patient would benefit from a **particular treatment**. When administered to appropriate patients, theranostics with PET/CT is effective and has a favorable safety profile.³

32%

The theranostics area is expected to grow by 32% every year from 2018 to 2030.⁴



PET/CT is crucial in oncology, an area with high clinical & economic burdens



9.6 m

Cancer led to 9.6 million deaths in 2018 and 23.6 million are expected in 2030⁶



#2

CANCER

is the #2 leading cause of death globally⁵

66% of cancer deaths occur in developing countries where there are insufficient or nonexistent radiotherapy services⁷



~ 66%

In 2010, the total annual economic cost of cancer was estimated at approximately⁸



\$1.16 trillion

PET SUCCESS DEPENDS ON PET RADIOPHARMACEUTICALS

PET radiopharmaceuticals are **fundamental** to PET success. Once administered to a patient, a PET/CT system can be used to detect the gamma rays they emit. Thanks to these radiopharmaceuticals, diseases can be diagnosed.

However, securing a reliable and consistent source of PET radiopharmaceuticals can be challenging.

Just like conventional nuclear medicine radiopharmaceuticals, the production of these drugs is highly regulated. Furthermore, PET radiopharmaceuticals also have extremely **short half-lives** and must be produced **close to the scanner**.

For example, [¹⁸F]FDG has a 110 minute half-life and must be used within a few hours of leaving the PET radiopharmaceutical production facility. In certain cases, these extremely short half-lives mean that some patients are forced to travel long distances to receive their scans.



1,808

the # of kilometers travelled by 250 Icelandic patients for a PET/CT scan in Denmark in 2018.⁹

SETTING UP & RUNNING A PET RADIOPHARMACEUTICAL FACILITY IS COMPLEX

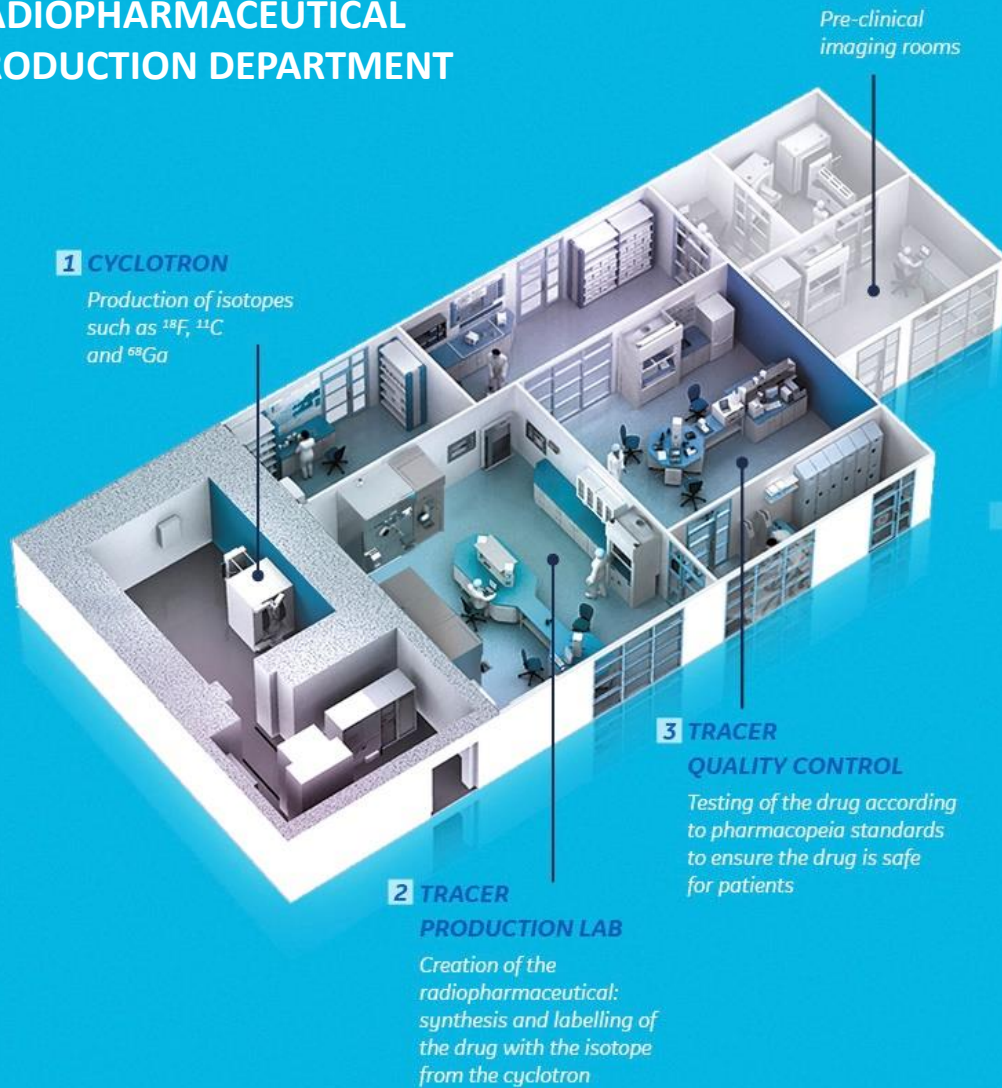
Setting up and running a PET radiopharmaceutical production facility is a complex endeavor and requires many considerations such as:

- Industry leading equipment
- Facility site planning
- Project management
- Pharmaceutical regulations
- and production education
- Drug lifecycle process management and support
- Continuous staff training
- Customized equipment lifetime care
- Future expansion and growth

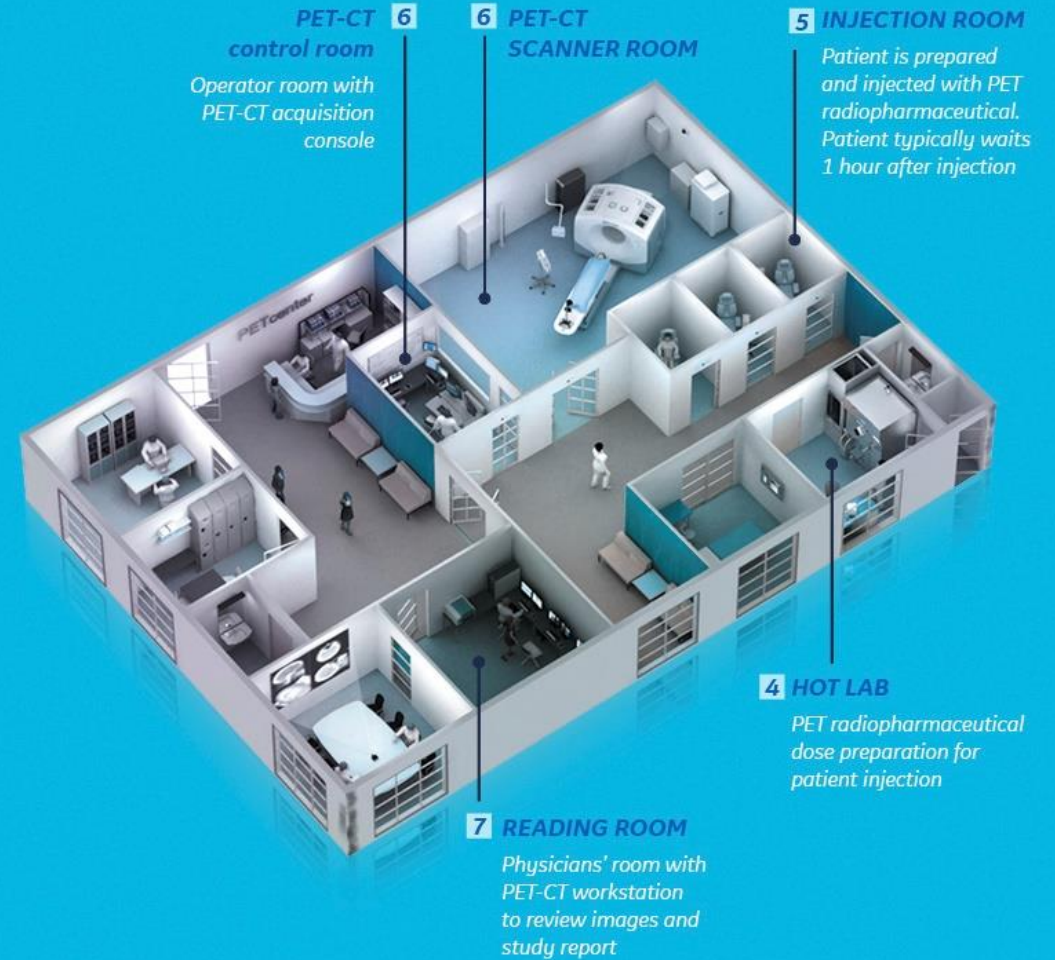


A TYPICAL PET RADIOPHARMACEUTICAL PRODUCTION FACILITY LAYOUT & USAGE WORKFLOW

RADIOPHARMACEUTICAL PRODUCTION DEPARTMENT



CLINICAL IMAGING DEPARTMENT



With the world's largest PET production center install base of 500+ cyclotrons, GE HealthCare is a partner you can trust

As a TRACERcenter customer, our dedicated support teams will be by your side, every step of the way

Meet your production goals and fulfill your radiopharmaceutical needs with the latest GE HealthCare technology



PRODUCE THE
RADIOPHARMACEUTICALS
YOU NEED IN THE
QUANTITIES YOU REQUIRE

GE HealthCare TECHNOLOGY

CYCLOTRONS

Choose from 2 industry-leading platforms, all offering **a wide range of radioisotopes**, while minimizing **space requirements** and radiation **dose**.



GE HealthCare TECHNOLOGY

CHEMISTRY SYSTEMS

Whether you need a system for your **everyday clinical tracer demands** or you require more specialised and customisable options for your **research purposes**, our two families will ensure you meet your production goals.

The most widely used chemistry system in scientific publications with 2000+ systems worldwide & 150+ tracers developed on the platform



TRACERlab

Research & phase I studies

Built for routine clinical production with plug-and-play functionality thanks to its cassette-based design



FASTlab

Phase II studies

Everyday clinical needs & phase III studies



$[^{18}\text{F}]\text{FDG}$ $[^{18}\text{F}]\text{FES}$
 $^{68}\text{Ga-DOTATOC}$ $^{68}\text{Ga-DOTANOC}$
 $[^{18}\text{F}]\text{FET}$ $^{68}\text{Ga-DOTATATE}$
 $[^{18}\text{F}]\text{FMISO}$ $[^{18}\text{F}]\text{FLT}$
 $^{68}\text{Ga-PSMA11}$
 $[^{18}\text{F}]\text{NaF}$

GE HealthCare **SUPPORT**



BE GMP-COMPLIANT AND HELP ENSURE YOUR PATIENTS' SAFETY

What is GMP?

The PET radiopharmaceuticals administered to patients prior to a scan are radioactive drug and like all other drugs on the market, they must also be safe.

How does GE Healthcare approach GMP?

GMP principles are **fundamental to everything we do**. We apply these critical quality guidelines to your projects from the first planning meeting to every single clinical dose you produce.



GE HealthCare SUPPORT



As a **TRACERcenter** customer, our **GMP experts** will be on hand to make sure your facility conforms to these vital guidelines through:

- Site readiness & project management support
- Carefully selected & qualified equipment with the respective installation
- qualification and operational qualification (IQ/OQ) protocols
- Documentation necessary to operate a facility under GMP guidelines
- On-site training by GMP experts on GMP & radiopharmaceutical performance qualification and process validation (PQ/PV)
- On-site GMP audit by our GMP experts to ensure your compliant processes are in place and ready for regulatory inspection



GE HealthCare SUPPORT

KEEP YOUR STAFF
UP TO DATE



TRACERcenter offers complete training solutions for your entire team to ensure they maintain their high levels of technical expertise.



APPLICATIONS



EQUIPMENT SERVICE



KNOWLEDGE BUILDING



TRACERcenter Academy Uppsala

- Experience a fully operational research and production laboratory environment



Onsite at your facility

- Learn the skills you need in your own facility using your own equipment for a seamless and applied knowledge experience



Online Learning Portal

- At your own pace, at your own time with our e-learning and remote instructors

GE HealthCare SUPPORT

BE FUTURE READY

A PET production facility is a **long-term investment in a fast-moving field.**

With the **Continuity Program**, a production facility will always stay ahead of the curve and evolve with your needs.



GE HealthCare **SUPPORT**

MAXIMIZE UPTIME

TRACERcenter provides dedicated support, as demonstrated by our cyclotron's 99% uptime. From fast, **local teams** of highly trained field engineers to worldwide service infrastructure, we'll ensure your facility is kept running at all times and at full speed.

- Replacement parts are delivered to your door as quickly as possible
- Our loaner parts program keeps you going until any new parts are installed



GE HEALTHCARE COMMUNITY

A PARTNER YOU CAN TRUST

500 +
PET
CYCLOTRONS

3000 +
chemistry
systems



With the **world's largest PET production center install base** of 500 + PET cyclotrons and 3000 + chemistry systems, **GE HealthCare is a partner you can trust.** And that trust starts with your dedicated **TRACERcenter manager.**

As your number one point of contact, they'll bring their expertise to ensure your TRACERcenter delivers, providing:

- Site-readiness & project management support
- Hand-picked equipment with accompanying GMP documentation
- On-site specialist training on GMP and radiopharmaceutical
- performance qualification and process validation (PQ/PV).



GE HealthCare COMMUNITY



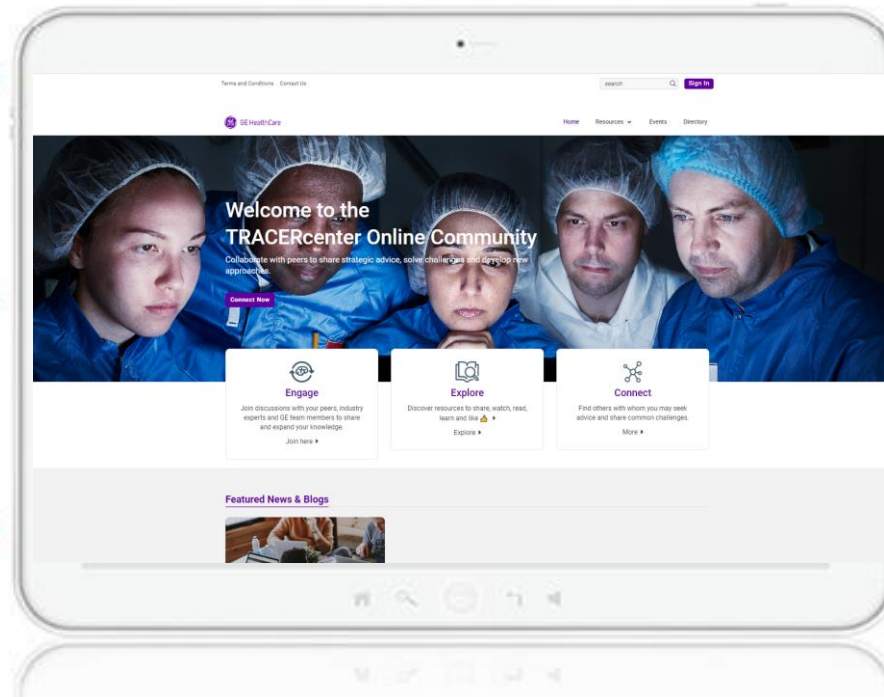
Connect with your peers from around the world
at the TRACERcenter online community
<https://tracercenter.gehealthcare.com/>



*Discussions
& questions*

*Chemistry
system method
sharing*

*Scientific
content sharing*



*Register for User
Group Forums &
Receive updates on
User Group Forums*

*Current & past User
Group Forum content*

*GE HealthCare
products document
library*

GE HealthCare COMMUNITY



Connect with a thriving
global community



For more than a decade, GE HealthCare users from around the world have been coming together to share their latest experiences and practices at the **PET Radiopharmacy User Group Forums**



AT LEAST
TWICE
A YEAR

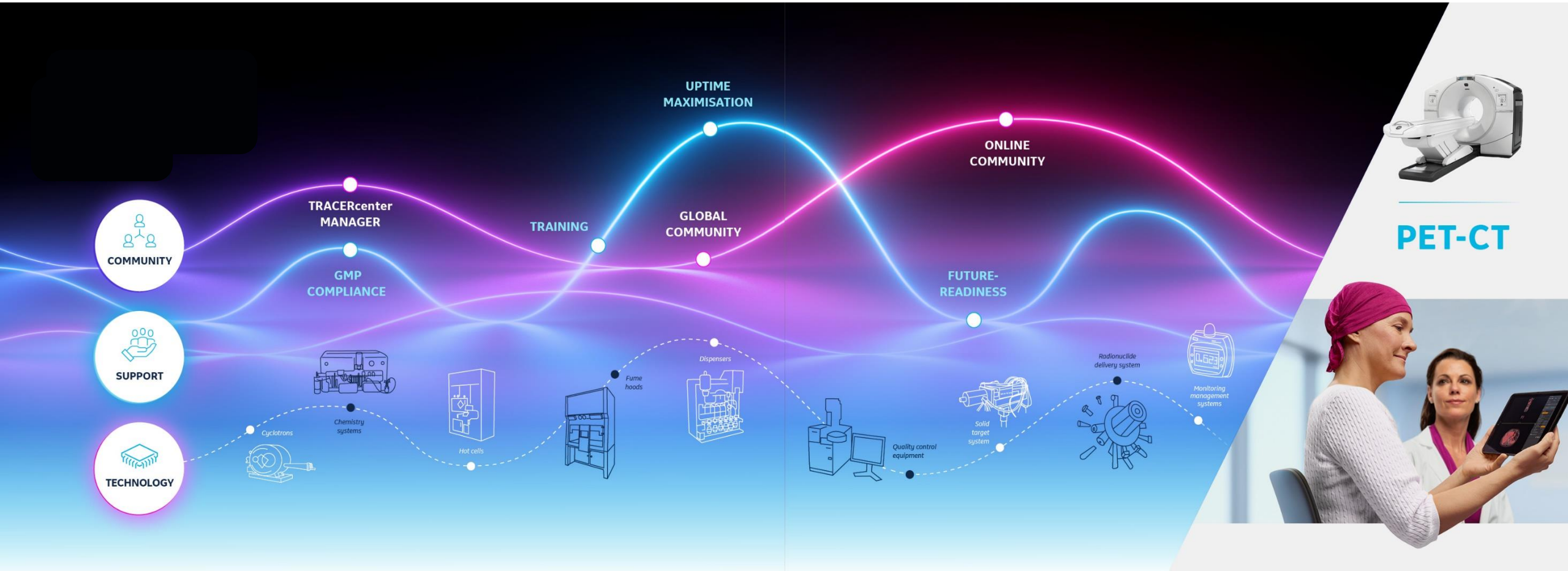
NORTH AMERICA (June)
EUROPE (October)
VIRTUAL (throughout the year)



150+

attendees
per event

WITH TRACERcenter YOUR PATH TO PET IS SIMPLE



GE HealthCare is a leading global medical technology, pharmaceutical diagnostics, and digital solutions innovator, dedicated to providing integrated solutions, services and data analytics to make clinicians more effective, therapies more precise, and patients healthier and happier. Serving patients and providers for more than 100 years, GE HealthCare is advancing connected and compassionate care, while simplifying the patient's journey across the care pathway. Together, we're creating a world where healthcare has no limits. Learn more at www.gehealthcare.com.

CT: Computed Tomography; FDG: Fluorodeoxyglucose; GMP: Good Manufacturing Practice;
IQ: Installation Qualification; OQ: Operational Qualification; PET: Positron Emission Tomography;
PQ: Performance Qualification; PV: Process Validation.

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Data subject to change
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