




Redefining the future of Cancer Treatment

Joe Matteo

President, ProNova Solutions, LLC

Research, Development, and Manufacturing

Event Sponsor

- **Indiana University Hospital Proton Therapy Center Event – Tonight in Bloomington**
- **REGISTRATION IS FULL**
- **Collaboration partnership with IU and IUHPTC**
- **Tour of Clinic, Beamline, and ProNova development**
- **Look for  ProNova badges to ask questions**

4:00pm - 5:30pm Travel to Indiana University Health Proton Therapy Center, Bloomington
separate ticket required
Buses depart from the Capitol Avenue entrance near AAPM Registration.

5:30pm - 8:00pm Tours and Dinner

8:00pm - 9:30pm Return to Indiana Convention Center



Overview



Equipment Manufacturer

- **1 to 3 -room compact system**
- **Superconducting gantry**
- **PT Research & Development**
- **PT Manufacturing**
- **High resolution imaging**



Clinical Provider

- **Provision Center for Proton Therapy (PCPT)**
- **Provision RT Facility**
- **1st ProNova customer**
- **Administrative services**

Combined Experience



ProNova has a strong History of Innovation



Developed and commercialized
PET & PET/CT
technology

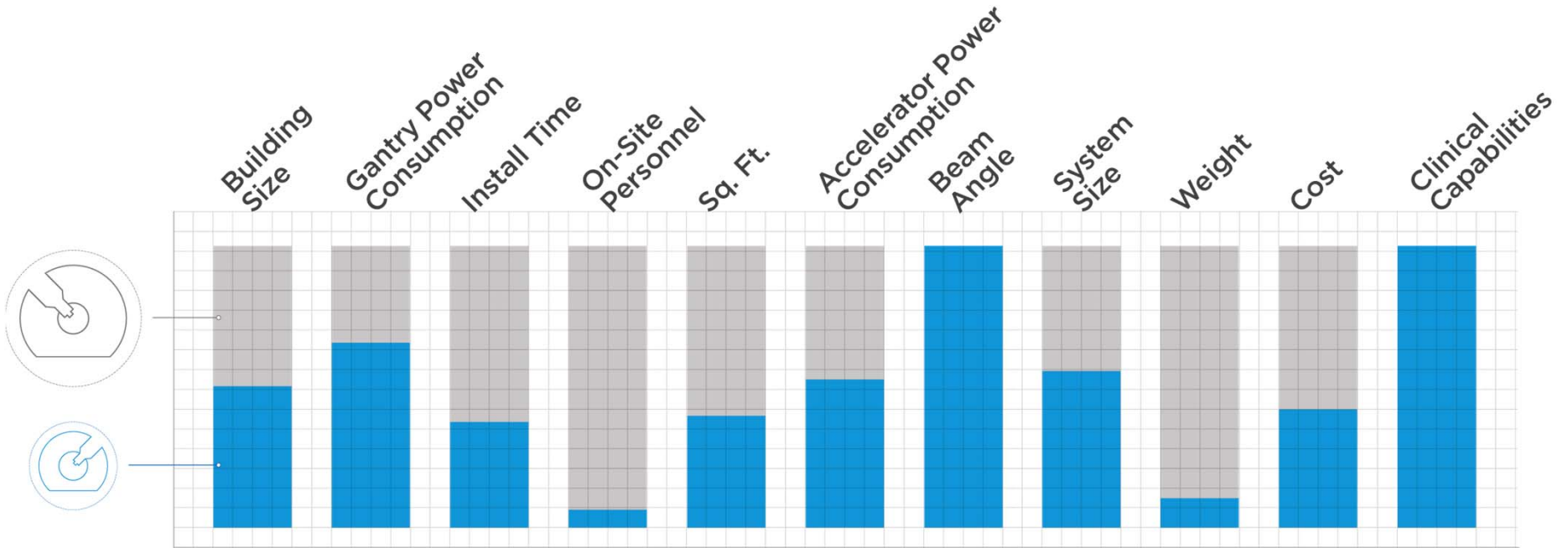


One of the largest suppliers of
Cyclotrons
In the world

ProNova Mission

ProNova's Mission:

To deliver a lower-cost, smaller, lighter, more energy efficient solution for Proton Therapy **without sacrificing performance** and **improving upon existing capabilities**, making proton more accessible to the cancer community



ProNova's No Compromise Solution

Full featured and future-proofed

- ✓ Maintain 360° treatment angle
- ✓ Direct Pencil Beam Scanning and Uniform Beam Scanning
- ✓ Intensity Modulated (IMPT), Image Guided (IGPT), and Hypo-fractionation optimized
- ✓ Workflow that mimics radiation therapy
- ✓ Cone Beam CT with Optional PET and multi-slice CT at isocenter
- ✓ Cantilever head allowing full access to patient
- ✓ 30% more room in treatment area



RT treatment room

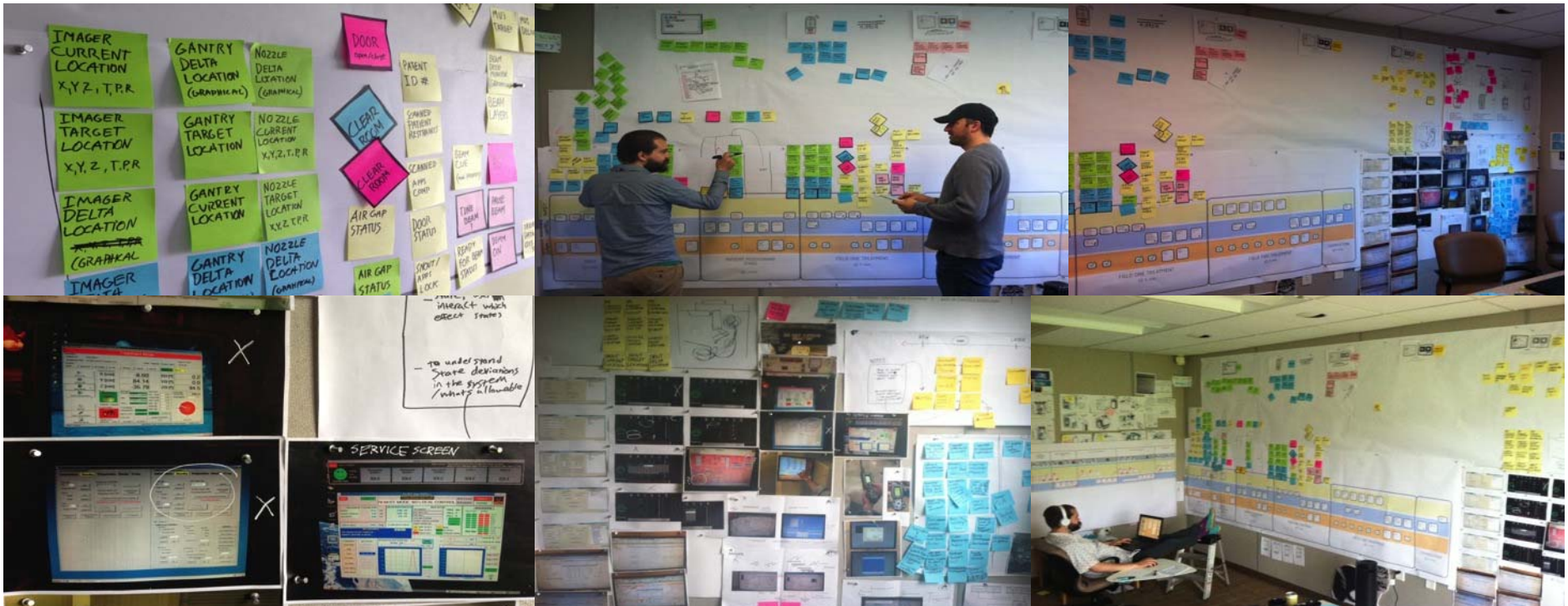


ProNova PT treatment room

Focused on Workflow

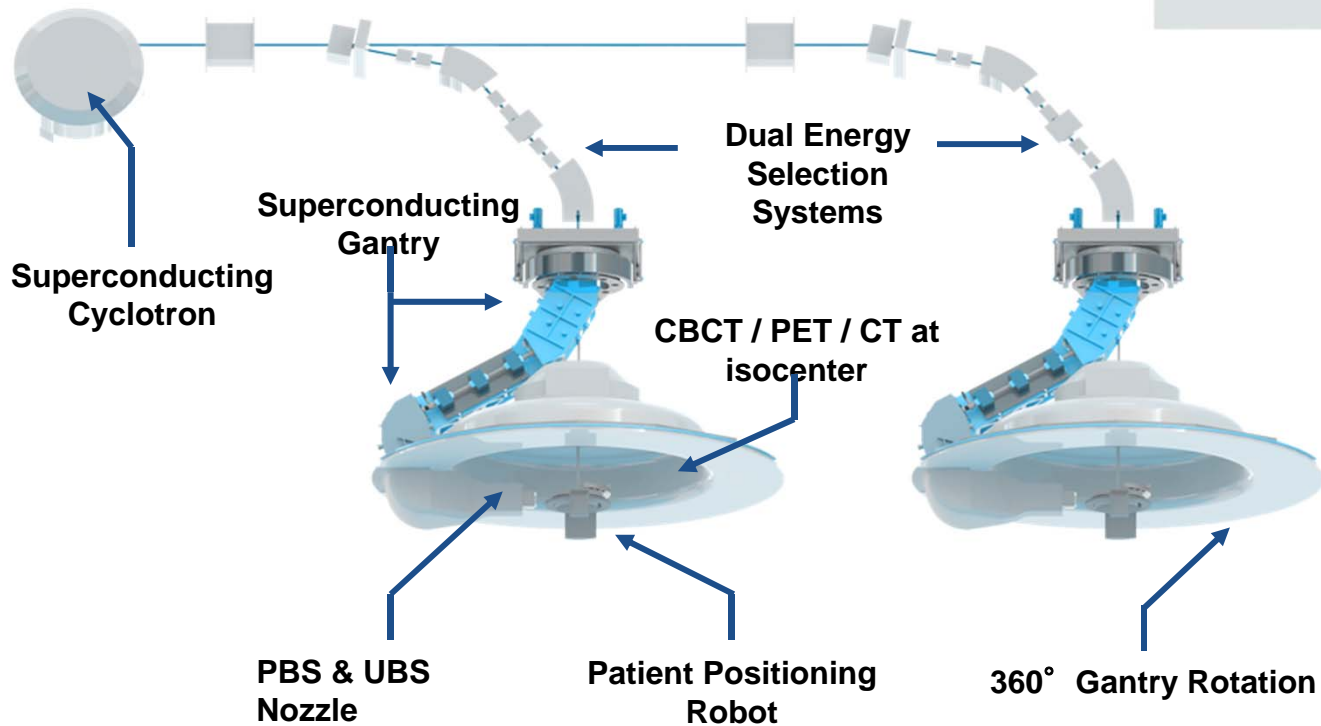
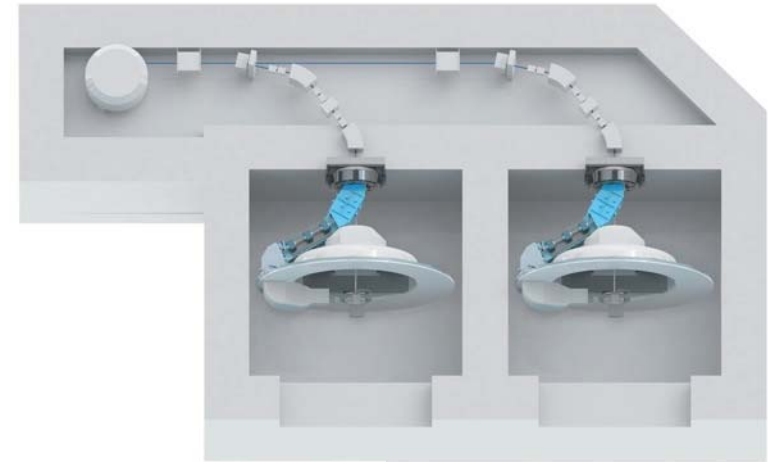
- Map Patient flow
- Map RTT and staff flow
- Imaging and positioning
- Information management

Leverage SC magnets
360 degree beam angle
Exposed isocenter
Large rectangular treatment room



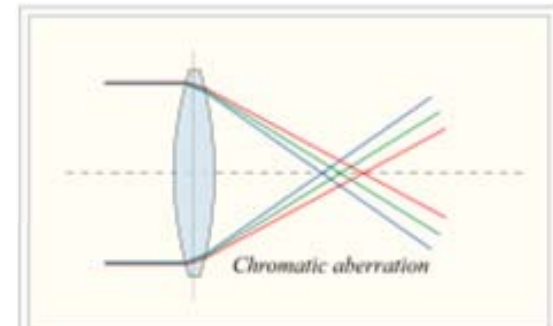
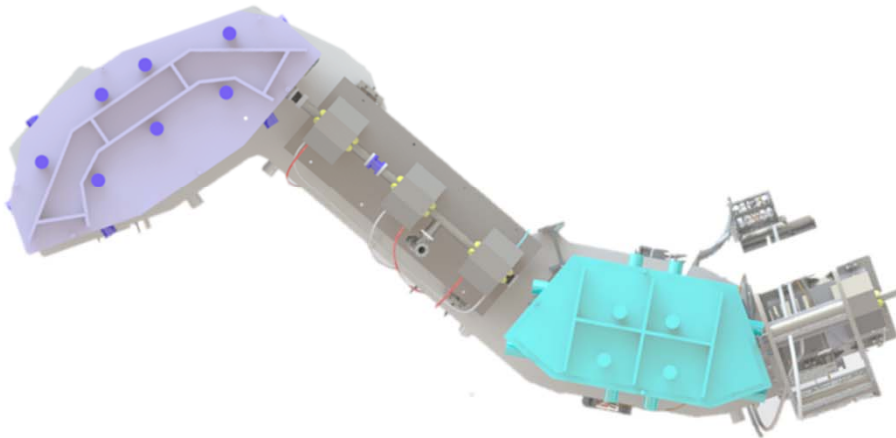
SC360 Efficient 2-Room Solution

- Superconducting gantry
- Rectangular treatment room
- Dual ESS with Rapid switching
- Permanent magnet beamline
- 3D imaging with PET

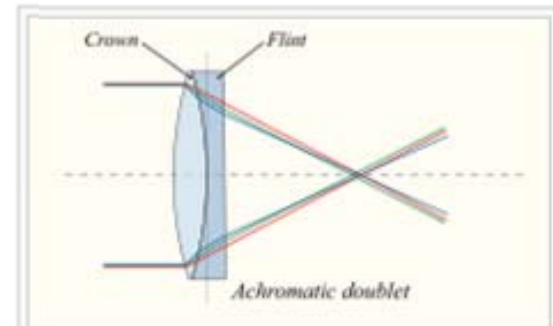


Leveraging Technology – Superconducting Achromat

- **Superconducting Beamline**
 - Achromatic bends – PBS energy changes
 - Large momentum window
 - Dramatically smaller size, weight, power
 - 2X higher field, 0.5X radius
 - Shared cryostat and coolers

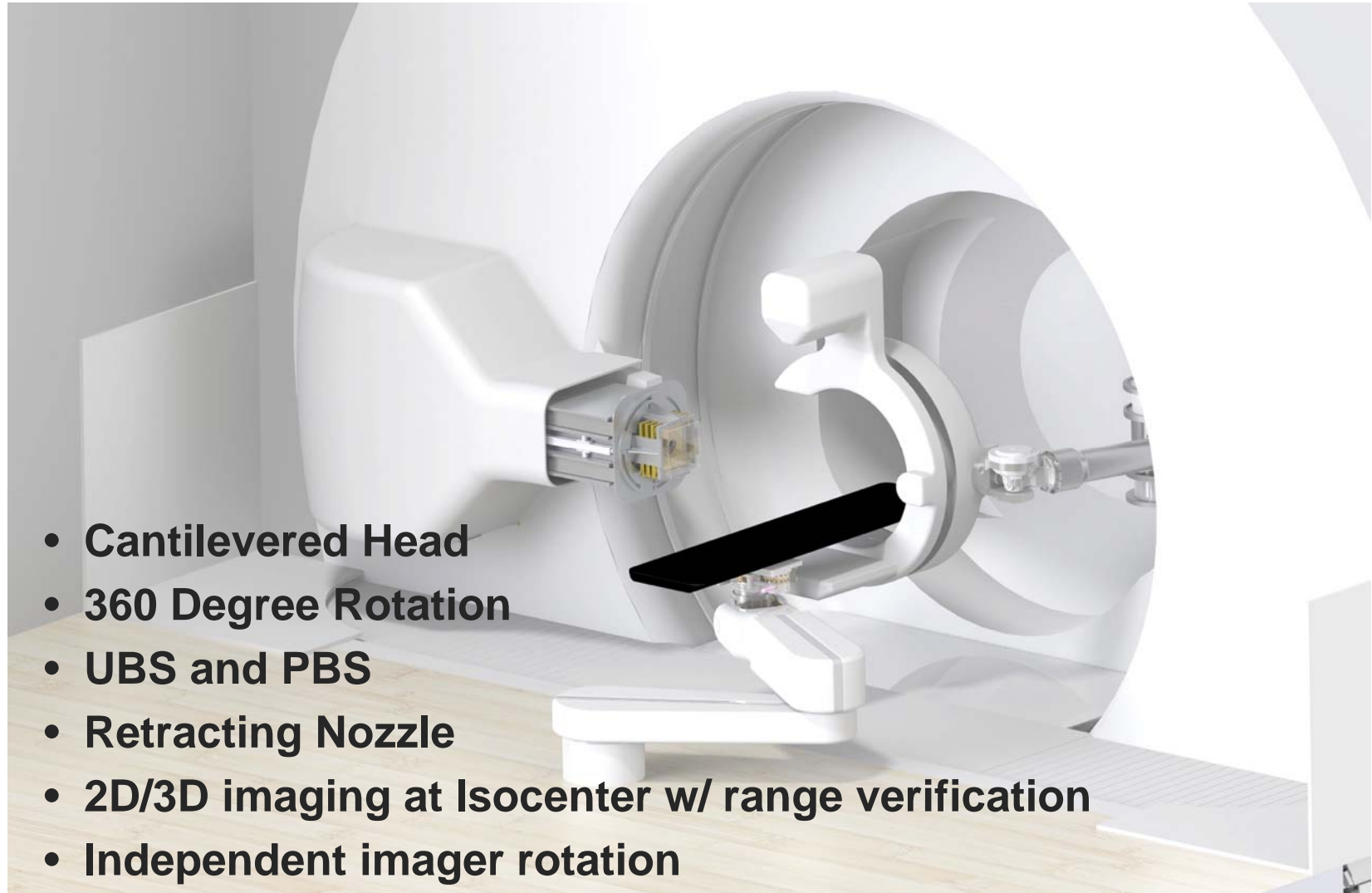


Chromatic aberration of a single lens causes different wavelengths of light to have differing focal lengths.



An achromatic doublet brings red and blue light to the same focus, and is the earliest example of an achromatic lens.

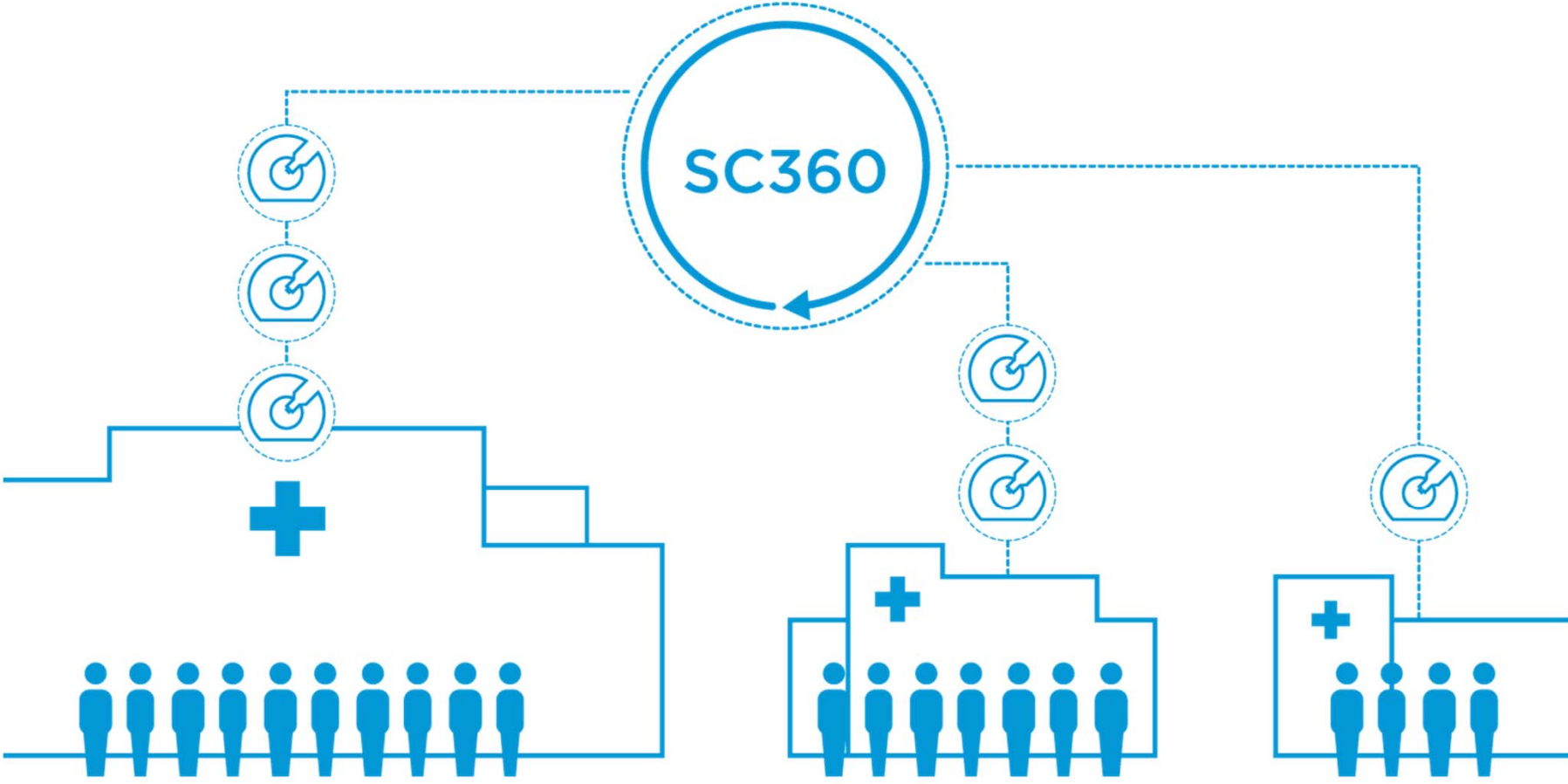
SC360 Treatment Room



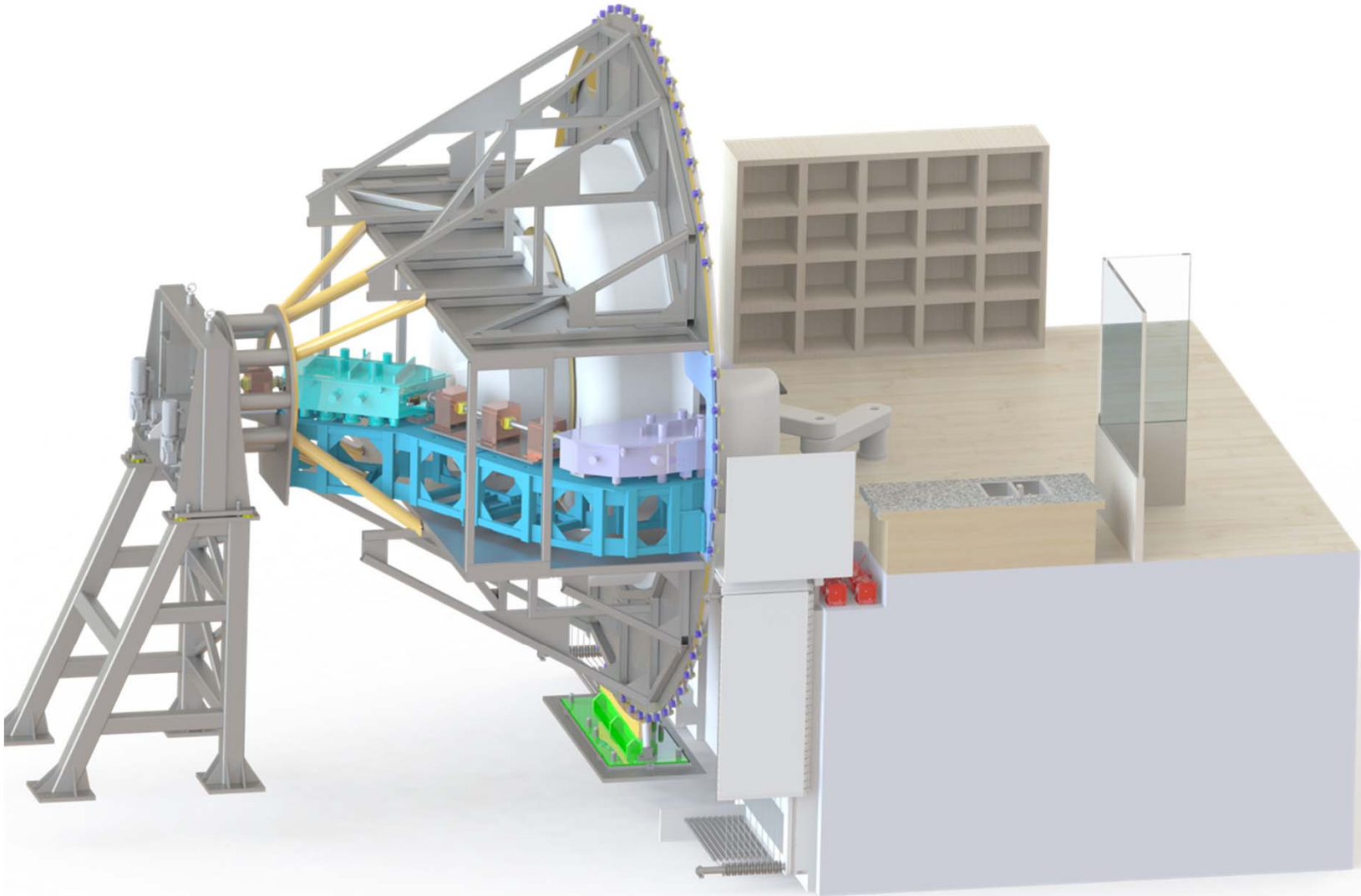
- **Cantilevered Head**
- **360 Degree Rotation**
- **UBS and PBS**
- **Retracting Nozzle**
- **2D/3D imaging at Isocenter w/ range verification**
- **Independent imager rotation**

Disclaimer: The ProNova SC360 has not been cleared by the U.S. Food and Drug Administration (FDA) for commercial distribution in the U.S. and is not available for commercial distribution at this time

SC360 Scalable – Independent Energy Selection



SC360 Behind The Wall



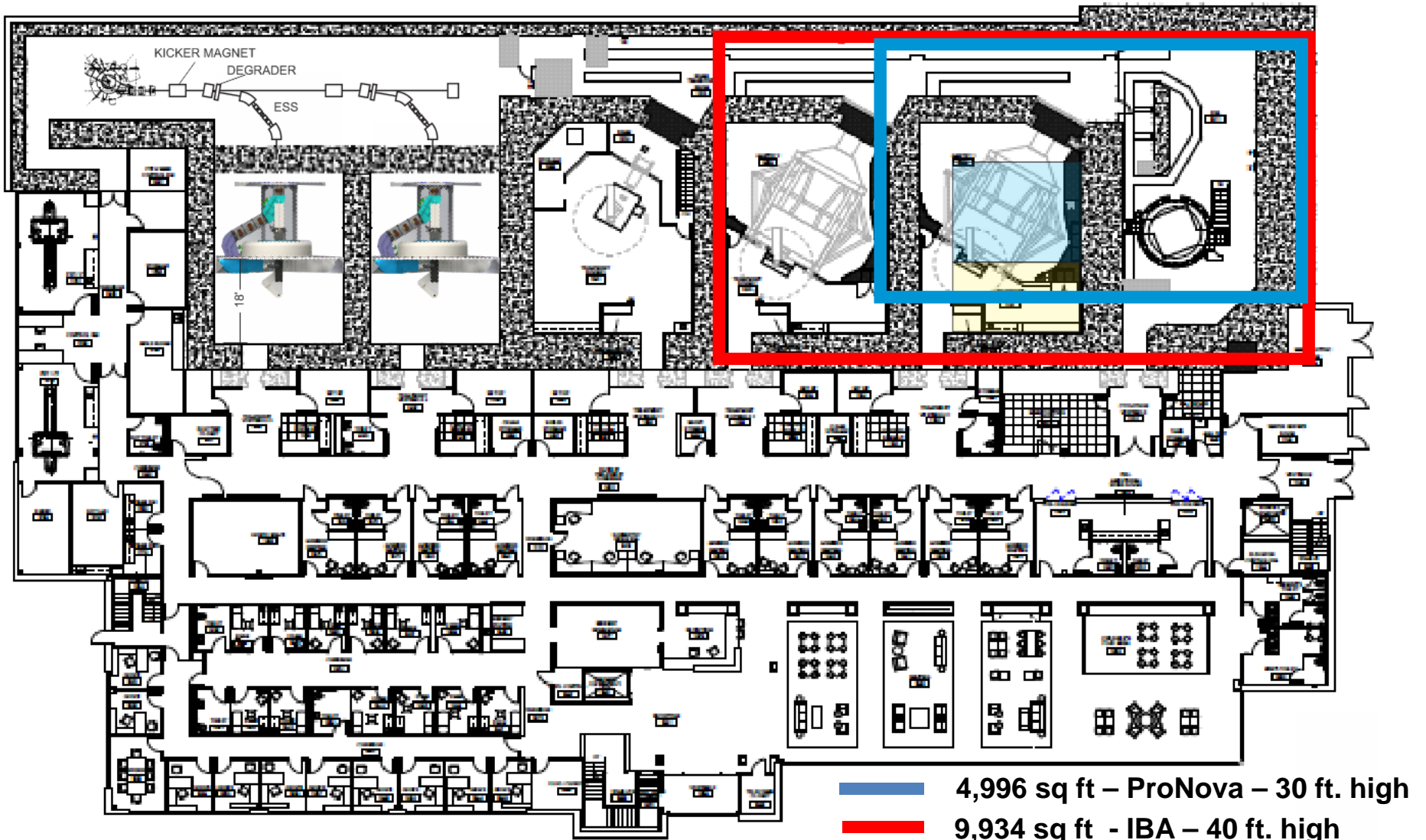
SC360 Development Strategy



Provision Proton Therapy & ProNova R&D Facility

ProNova Development Vaults

Provision Clinical Vaults



ProNova Office Building



OFFICE BLDG (VIEW FROM NW)

SCALE

1

- 70,000 square feet on 27 acres
- Shielded vault space
- Full system test
- Ship in standard containers
- Break ground 2013

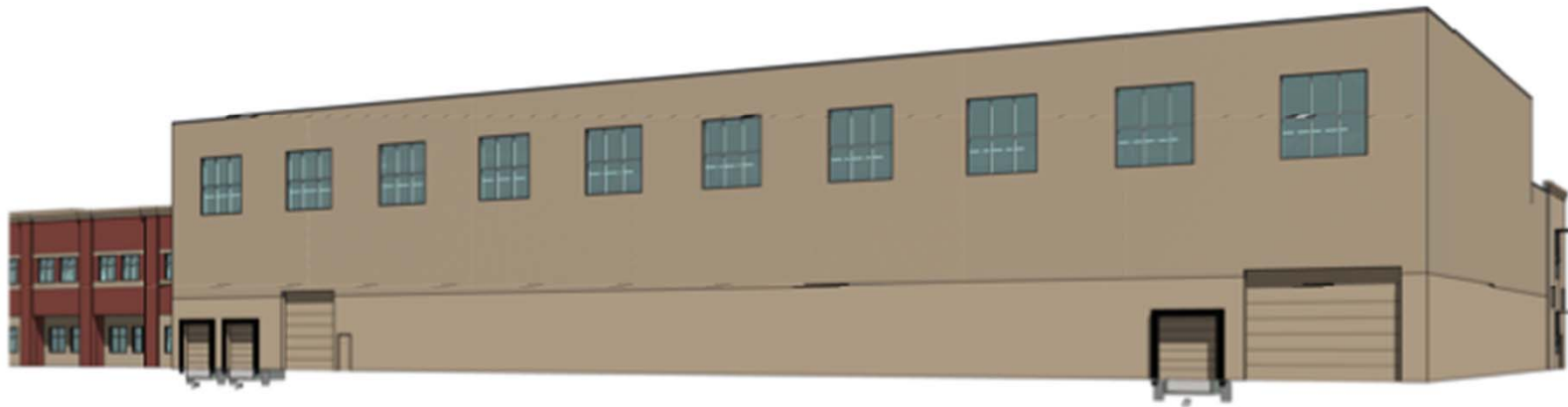


OFFICE BLDG (VIEW FROM SW)

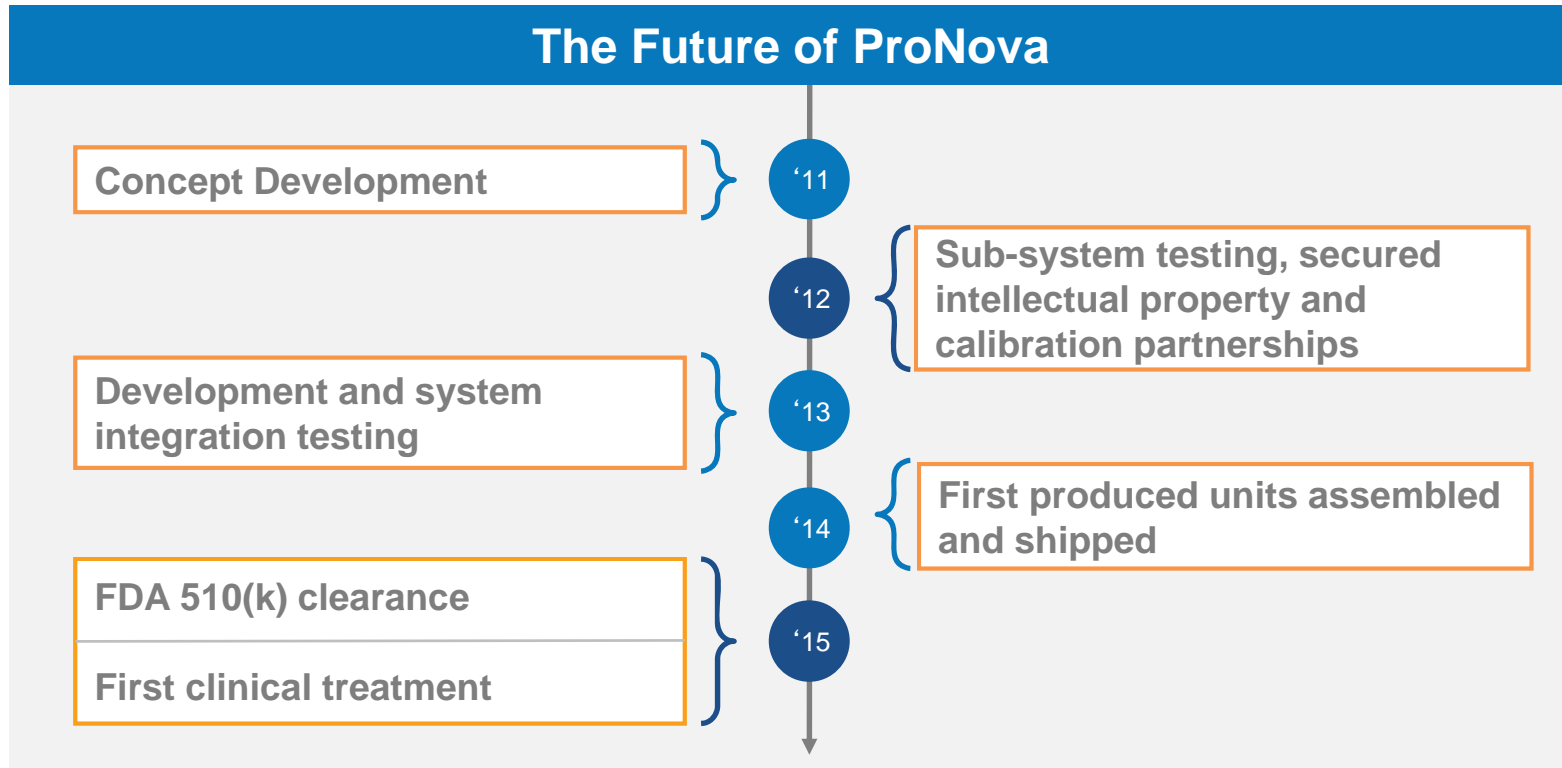
SCALE

4

ProNova Commercialization Building



ProNova Timeline



ProNova SC360 No Compromise Solution

THANK YOU

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ProNova SC360 Total Solution



A Pioneering Community

Knoxville-Oak Ridge Innovation Valley is the hub for Radiological Science

- Oak Ridge National Laboratory
- Spallation Neutron Source
- Radiation Detection and Instrumentation
- PET & PET/CT Imaging, PET Cyclotrons
- Bio-Tracer Technology
- University of Tennessee
- Proton Therapy
- Cryo-magnetics
- Radioisotopes
- Scintillation



History of Innovation

0 2 0 0

Cyclotrons

2 0 0 0

PET & PET/CT
Scanners



Development Approach

Best in Class Leads to Improved Patient Care



Proton Therapy Center

