



IBA & Proton Therapy

ITAPA – 15/03/23

unique
medical **in quality**

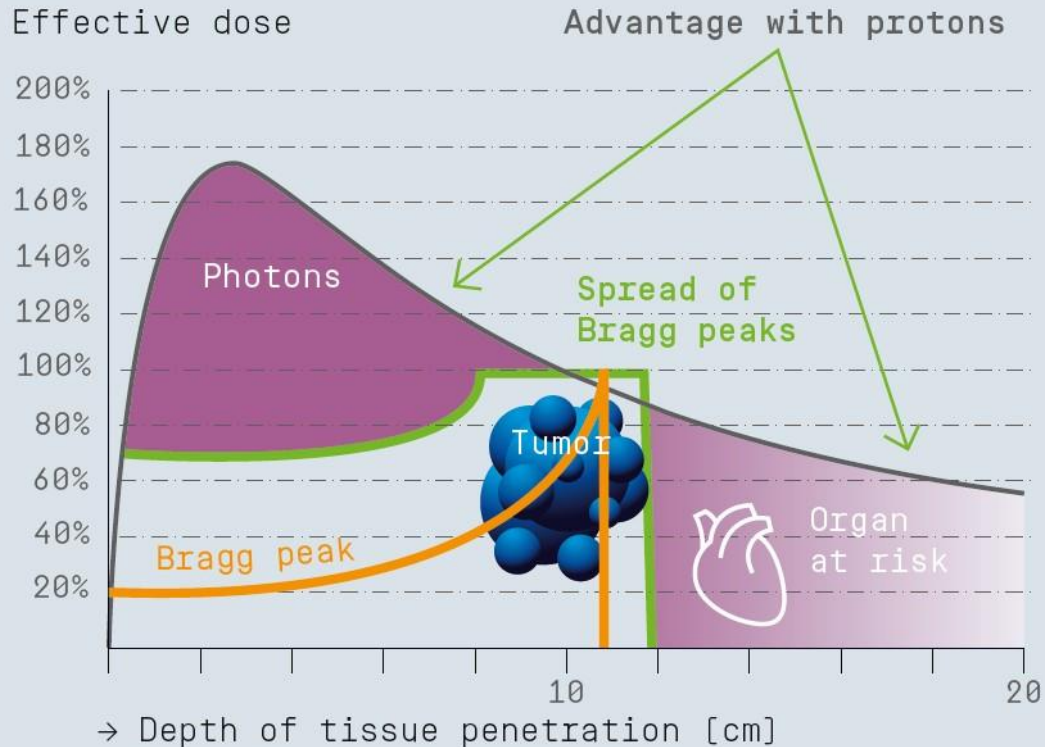
Life.
Science.

**PROTON
THERAPY**



What is Proton Therapy?

Bragg Peak*

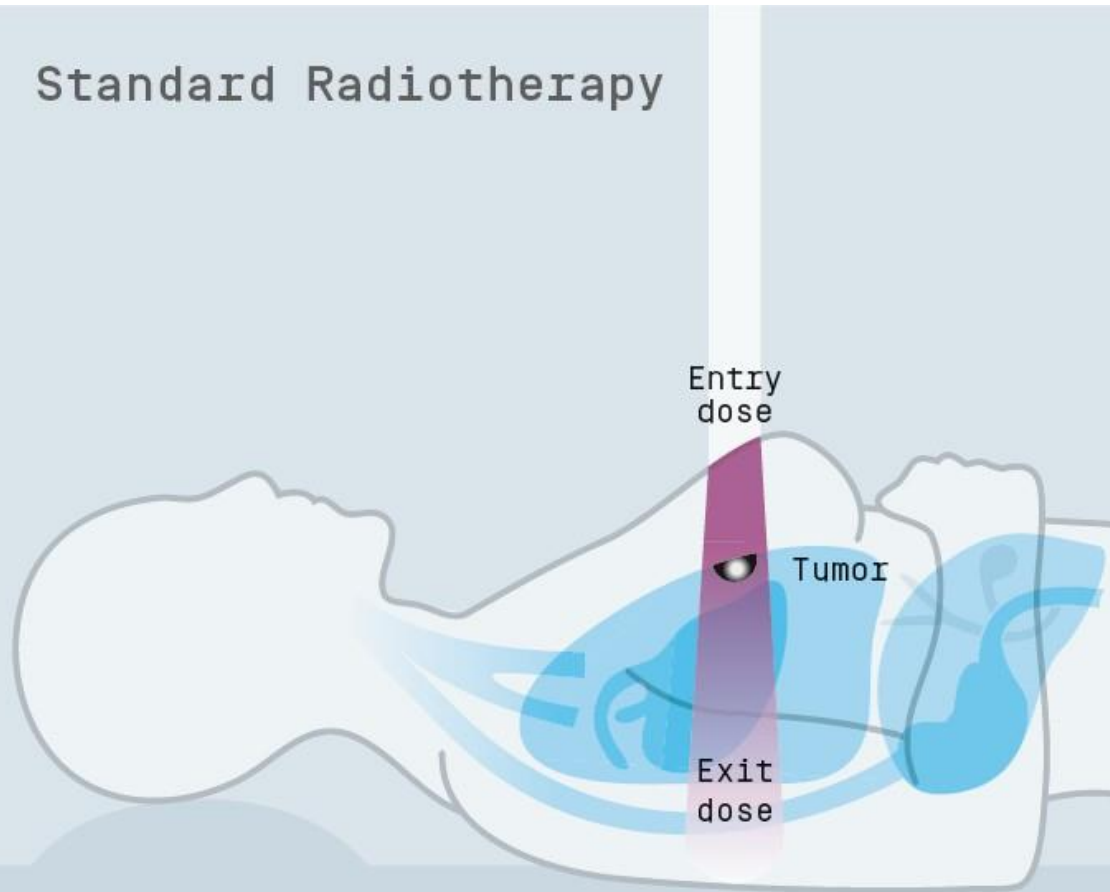



*The proton beams release most of their energy inside a reduced area at the heart of the tumor, depositing a lower entry dose and no exit dose

- Use of protons instead of photons to deliver a dose of radiation to a tumor
- The physics of proton therapy allow you to deliver the dose with minimal radiation exposure of healthy organs resulting in:
 - **Improvement of local control through dose escalation**
 - **Reduction of side effects**
 - **Lower risk of induced disorders (e.g. secondary cancers or child growth abnormality);**
 - **More possibilities for re-irradiation**

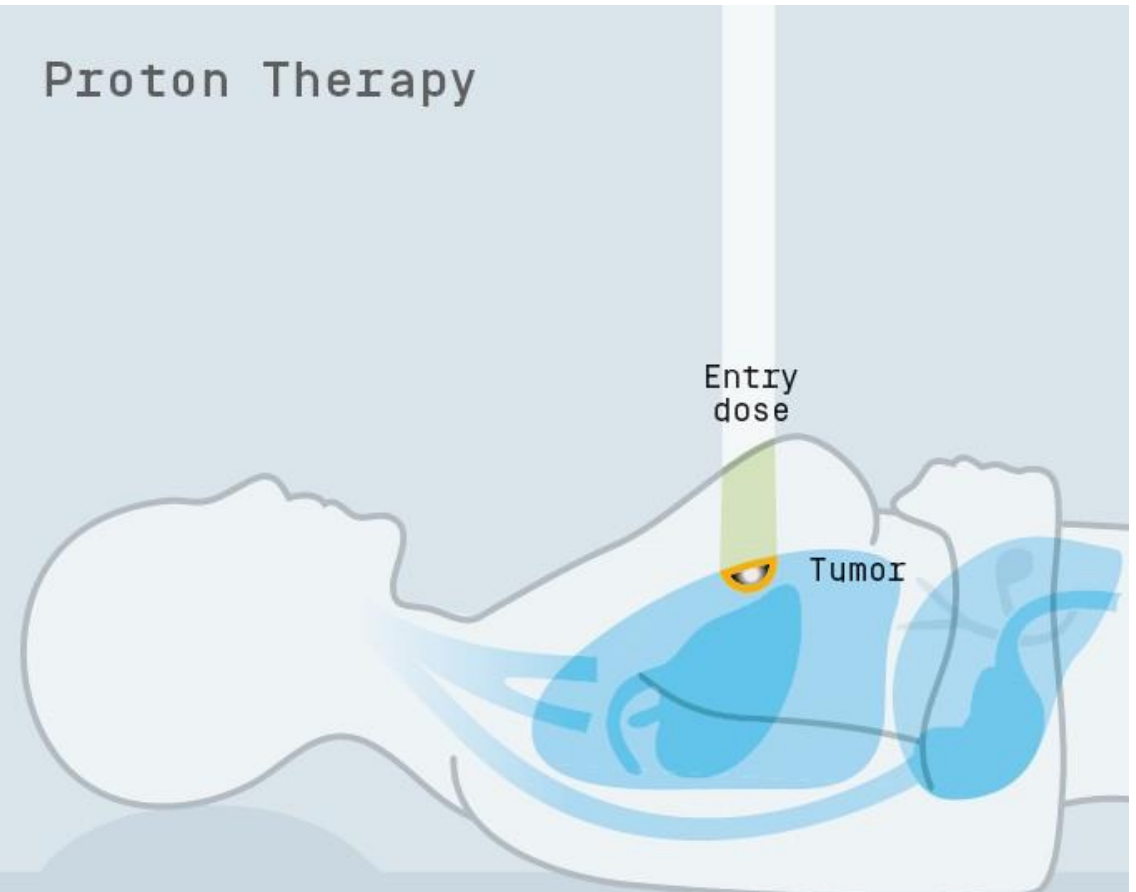
Photons vs Protons

Standard Radiotherapy



 Deposits most of its energy in front of the tumor

Proton Therapy



 Deposits most of its energy inside the tumor

Why does Proton therapy make sense now?

- Need for precision cancer care patients still exists TODAY
- Opportunity after COVID to provide better care and fight backlog
- More and more evidence being generated showing the benefit of proton therapy



Patients will still always face many challenges...

Growth & demand for proton therapy in Europe

25+

Proton Therapy Centers

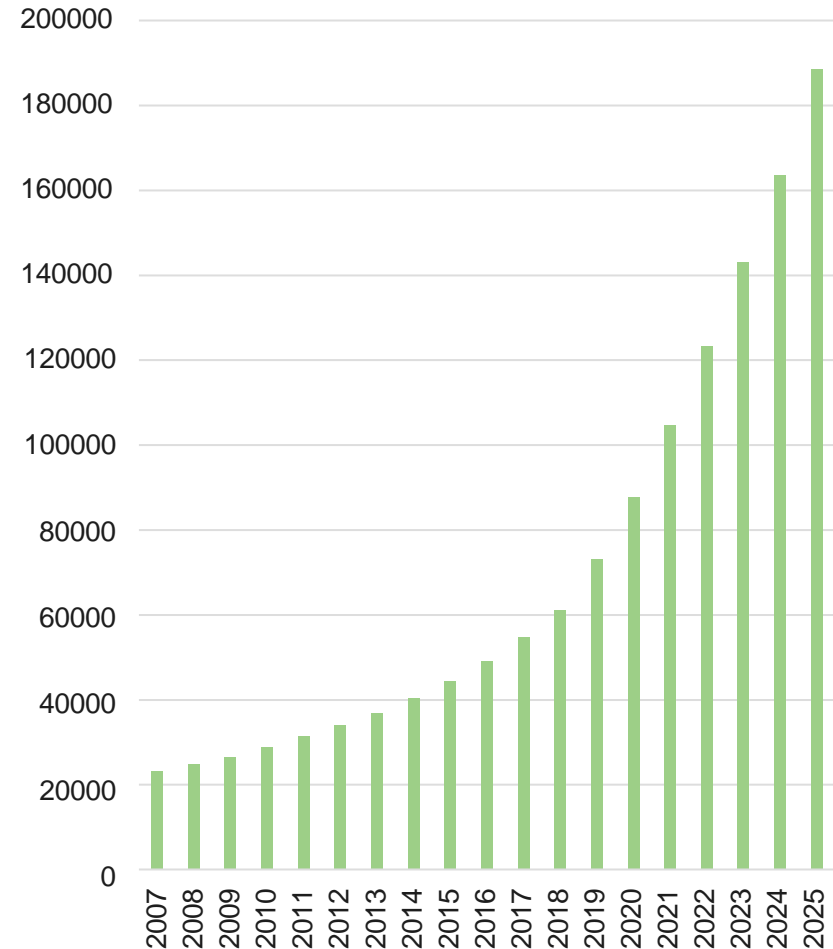
- IBA centers
- Other centers*
- Future centers**

15 centers have begun clinical operations in the last 5 years



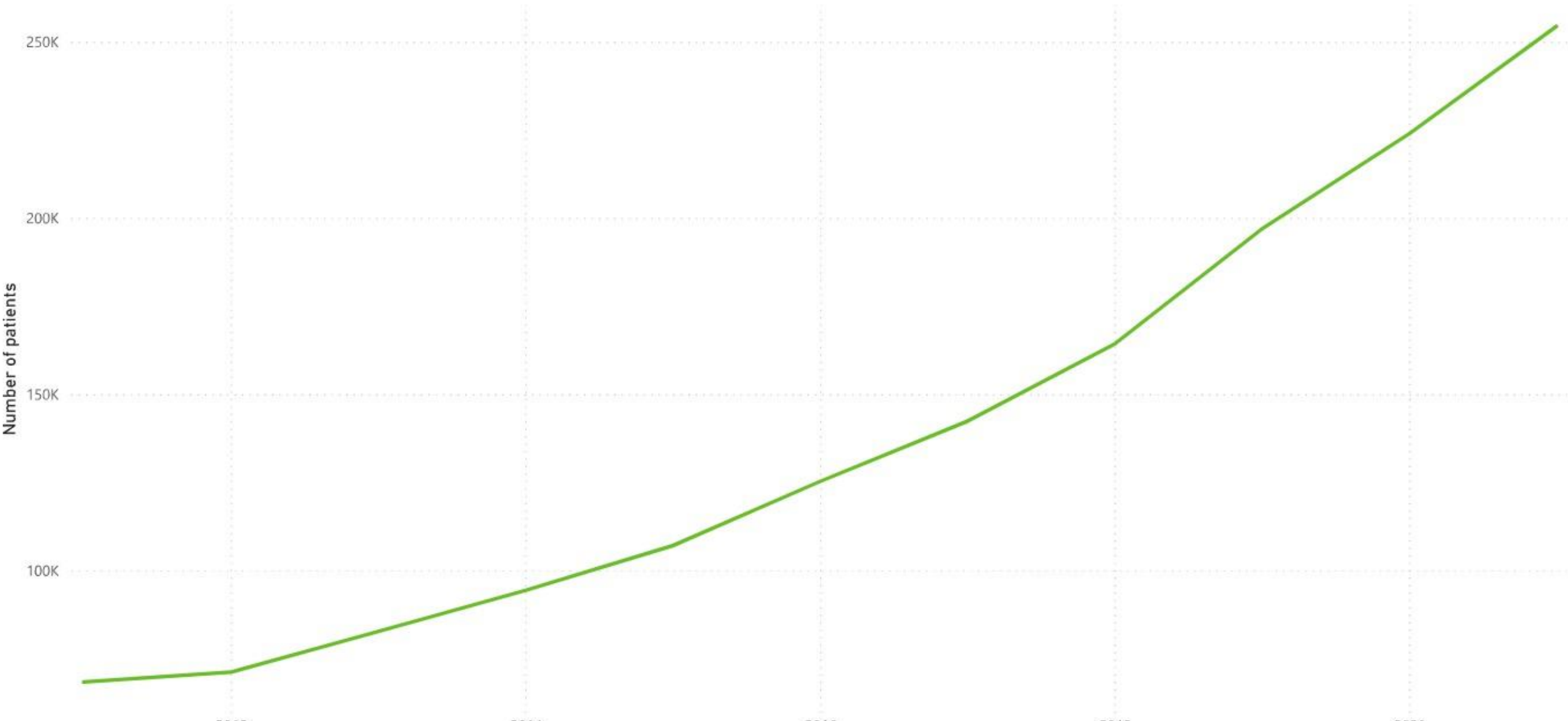
*includes centers only treating eyes
**includes announced centers by Spanish MoH

Total number of patients treated in Europe according to PTCOG data



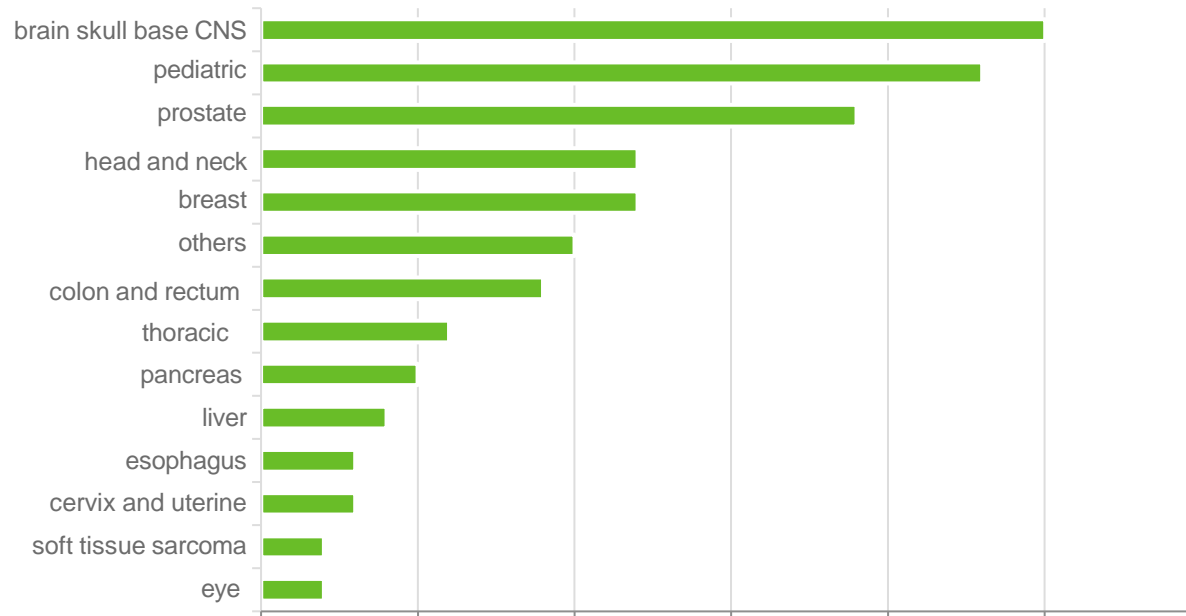


Cumulative number of patients treated with proton therapy since 2011



Source: PTCOG Statistics (2022)

Increasing clinical evidence for indication

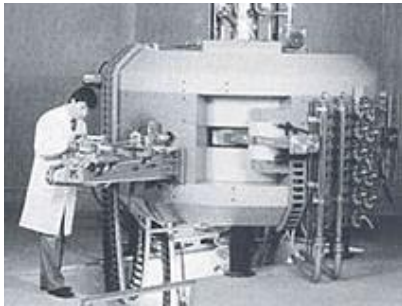


- Majority in **CNS, pediatric, prostate, breast, and lung**
- Mainly focused on **side-effects reduction**

Source trial.gov

Committed today and tomorrow to proton therapy

100% committed to Proton Therapy



1986

IBA founded by Yves Jongen in Belgium



2001

First treatment at Mass General Hospital, Boston, USA



2014

World' first IMPT compact proton therapy system - Proteus®**ONE**

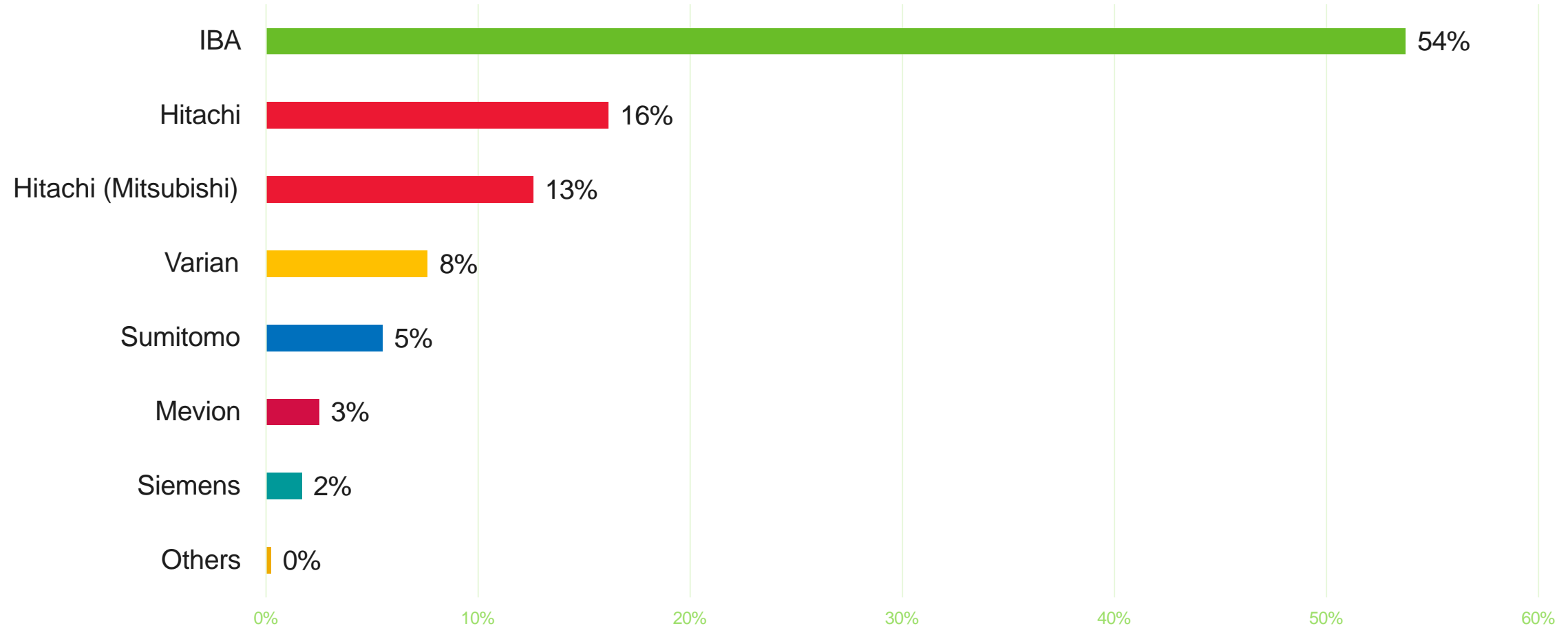


2020

100,000+ patients have been treated with IBA proton therapy systems

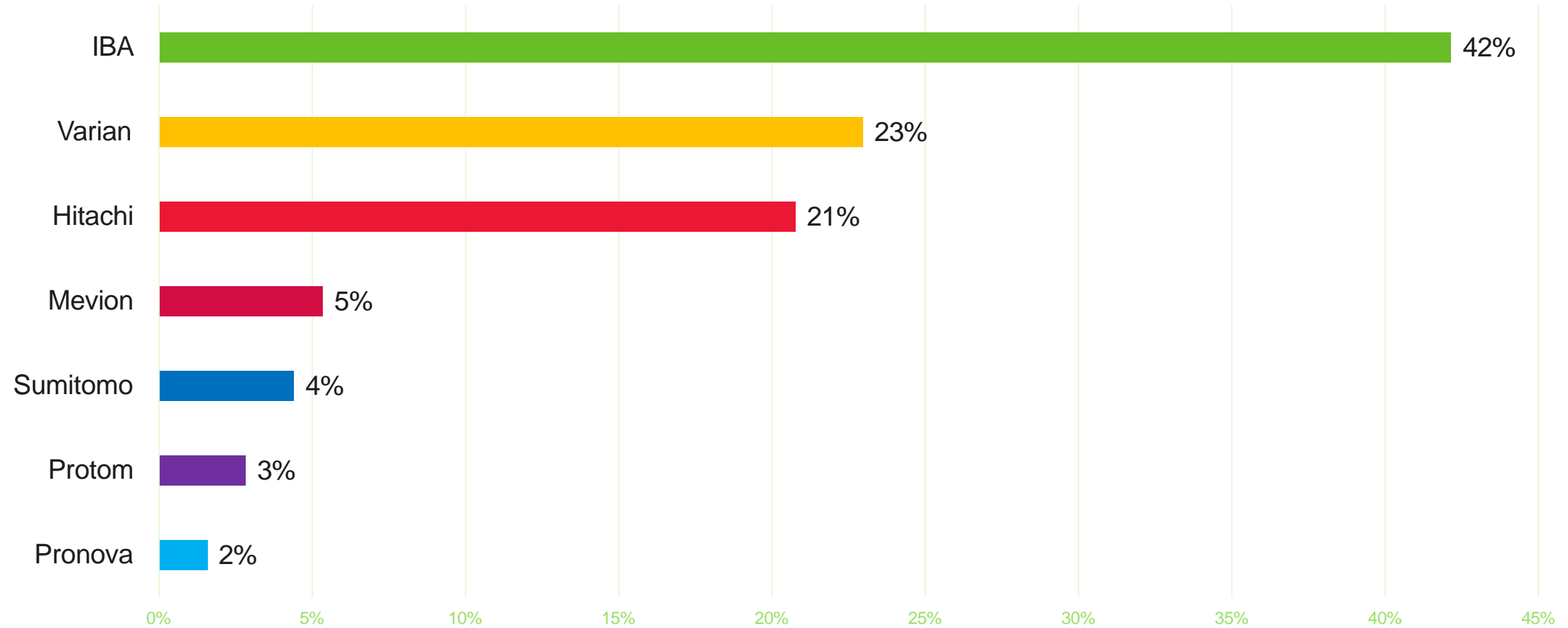
IBA PT Global Market Leader

Total number of patients treated by vendor (share %)
(2019 PTCOG data)

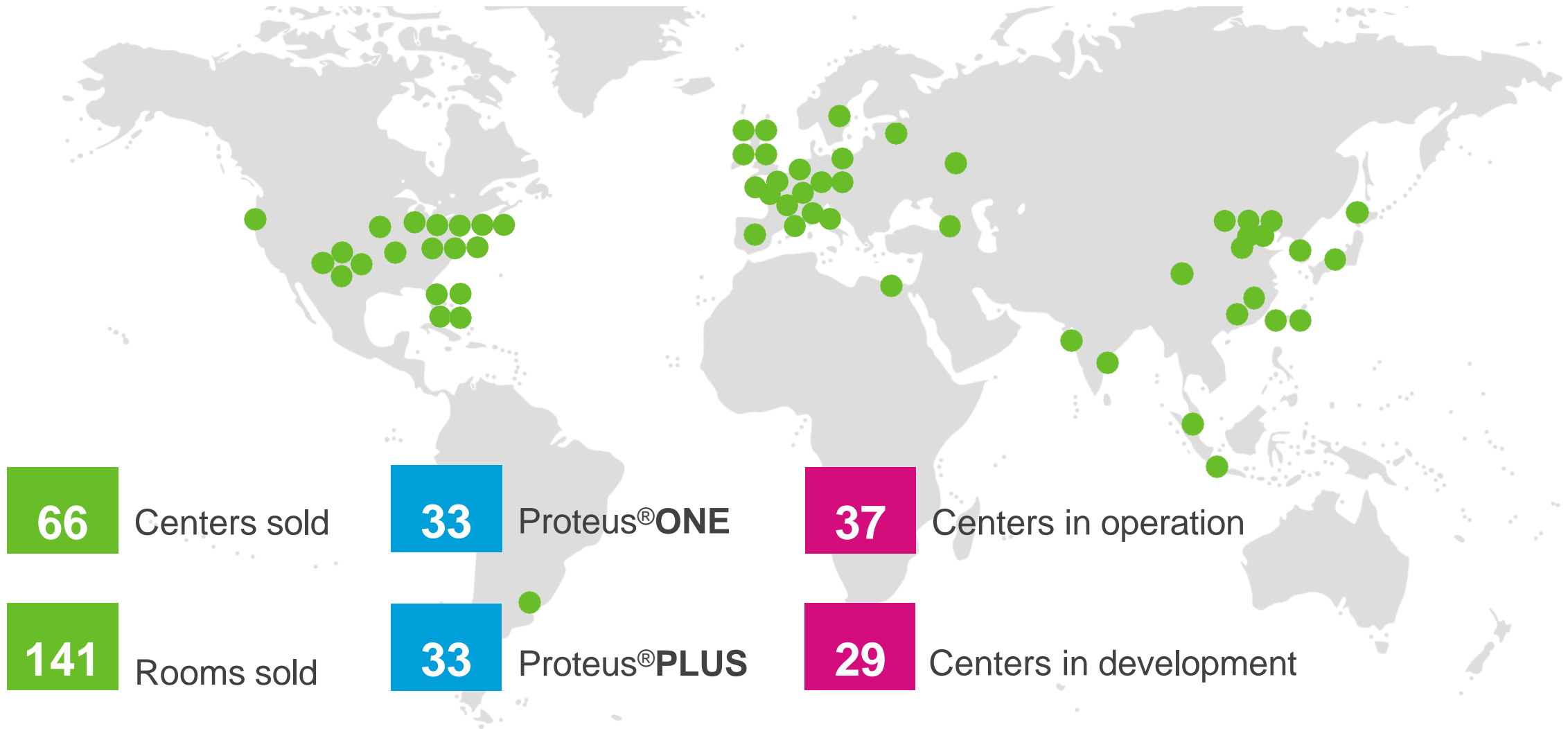


IBA PT Global Market Leader

Worldwide rooms sold (share%)
(2022 internal data)



IBA proton therapy centers – Largest network & experience



Technology

- Compact systems are now **system of choice** (e.g. ProteusONE)
- Technology enabling **increased patient throughput** (300-350 patients a year)
- Future technologies under development will further **increase throughput** and **increase quality**
 - DynamicARC® (25+% more patients)
 - ConformalFLASH® (ultra hypofractionation)

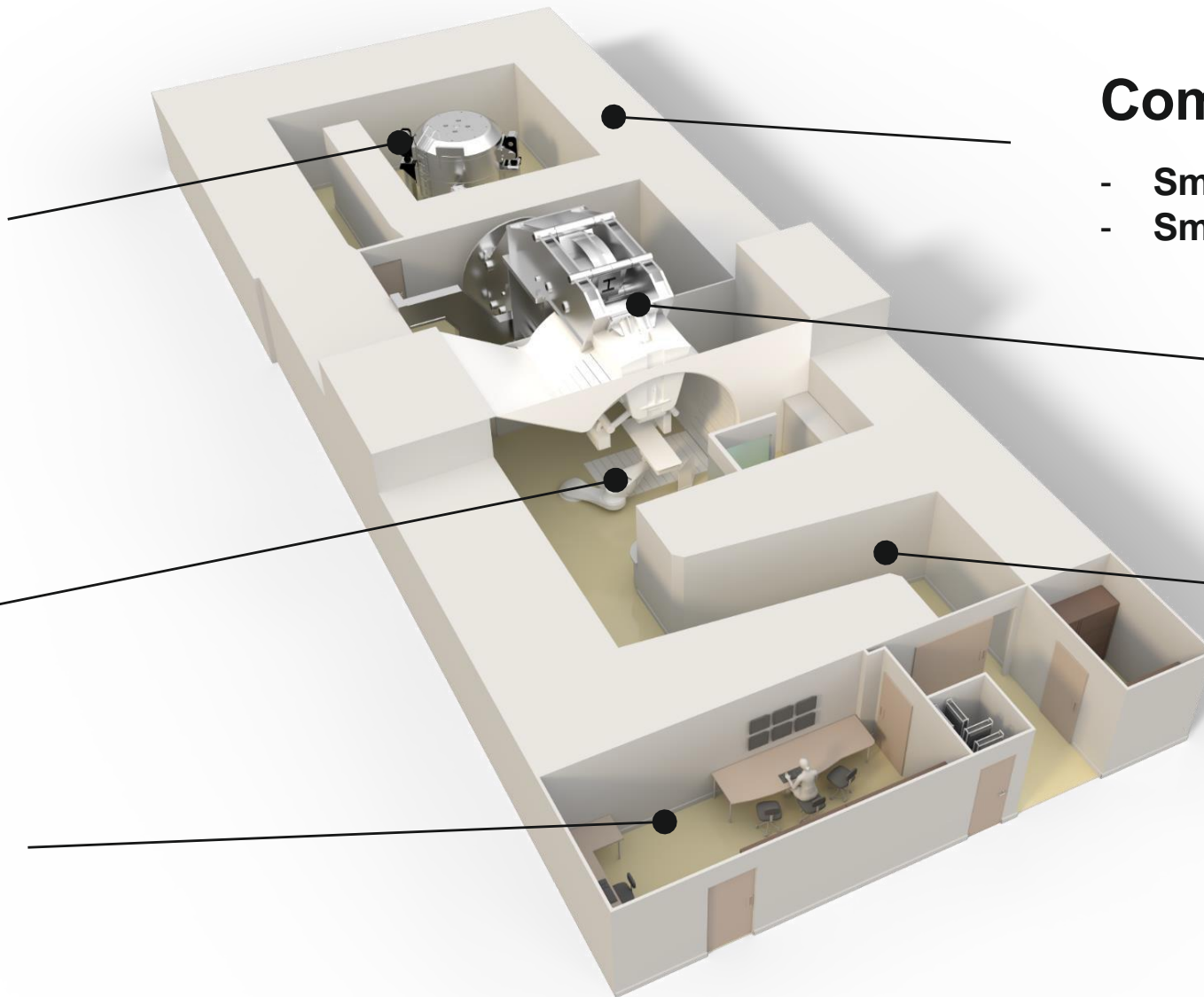


Proteus[®] **ONE**

« S2C2 »
Synchrocyclotron

Leoni Robotic
Patient Couch

Treatment Control
Room



Compact Design

- Small Footprint: 330 m²
- Small Volume: 1735 m³

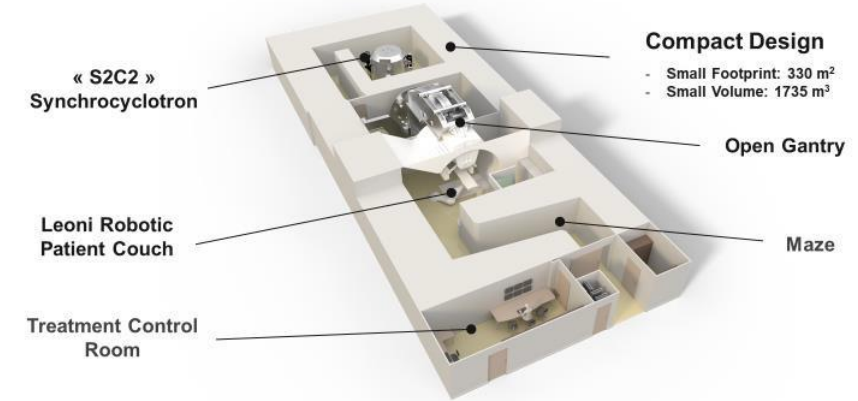
Open Gantry

Maze

Feasibility: what has changed?

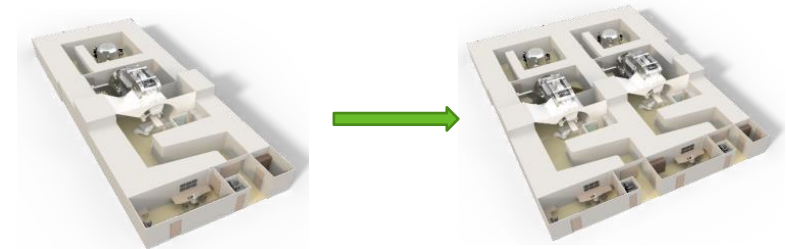
- Smaller CAPEX / OPEX investment
- Small footprint & volume, less infrastructure
 - Footprint: 330 m²
 - Volume: 1735 m³
 - Consumption 650 MWh/year (13200 fractions)
 - Maximum required power: 540 kVA
- IBA can deliver faster
 - Expanded manufacturing
 - Unmatched installation team size / expertise
 - Project management & building support
- ProteusONE's expandable systems design for future growth
 - Allows for smart center planning
 - Avoids future obsolescence technology mismatch

Proteus[®]ONE



17M€ investment for space of 10,000m²

- Lead time and cost reduction with higher quality output
- Waste reduction and material flows optimization
- Carbon neutral building
- Aligning capacity to demand-guaranteed on time delivery



Proton Therapy Project

Project management

Design & Building support

Installation

Training

Acceptance & commissioning

First patient and Ramp Up

Continued Treatment & upgradability

Operations & maintenance

Category	Item	Value	Unit
Category 1	Item 1	10.00	€
Category 1	Item 2	20.00	€
Category 1	Item 3	30.00	€
Category 1	Item 4	40.00	€
Category 1	Item 5	50.00	€
Category 1	Item 6	60.00	€
Category 1	Item 7	70.00	€
Category 1	Item 8	80.00	€
Category 1	Item 9	90.00	€
Category 1	Item 10	100.00	€
Category 2	Item 1	11.00	€
Category 2	Item 2	22.00	€
Category 2	Item 3	33.00	€
Category 2	Item 4	44.00	€
Category 2	Item 5	55.00	€
Category 2	Item 6	66.00	€
Category 2	Item 7	77.00	€
Category 2	Item 8	88.00	€
Category 2	Item 9	99.00	€
Category 2	Item 10	110.00	€

Single ProteusONE - Typical Project Timeline

Building construction: 18-24 months

ProteusONE installation: 12 months

Clinical
commissioning:
3 months

Building Readiness
Date (BRD)

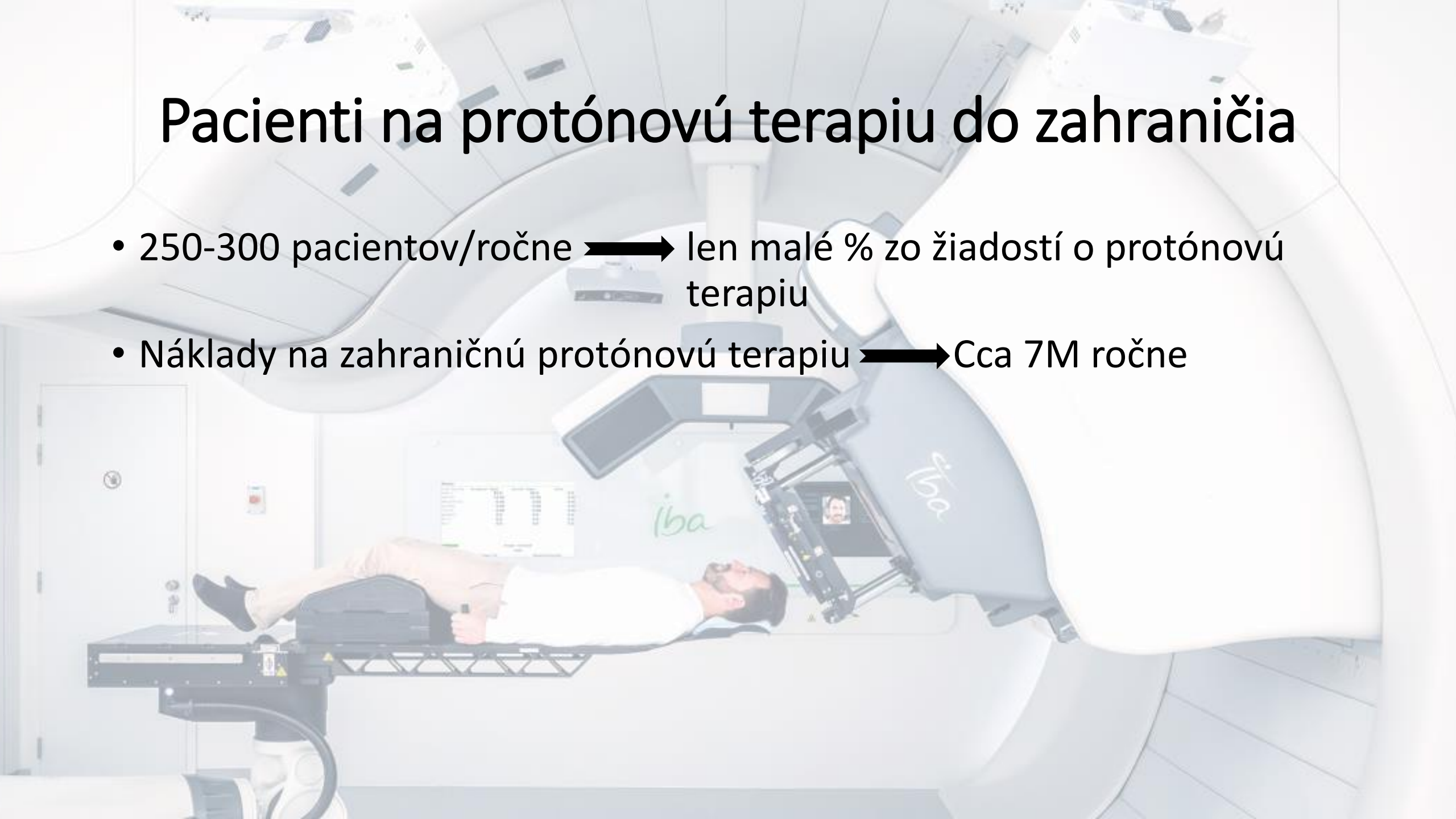
ProteusONE system
accepted

1st patient
treated

ProteusONE system
delivered on site

Pacienti na protónovú terapiu do zahraničia

- 250-300 pacientov/ročne ➡ len malé % zo žiadostí o protónovú terapiu
- Náklady na zahraničnú protónovú terapiu ➡ Cca 7M ročne



Ekonomicko - prevádzkové hospodárenie protónového centra

- Optimálna kapacita protónového centra ➔ cca 13 000 frakcií/ rok
- Úhrady za jednu frakciu cca 1200 EUR ➔ 15,8M EUR/ rok
- Prevádzkové náklady (servis, prevádzka budovy, energie, personál) ➔ 4-5M EUR/ rok

Thank you

