

RE-INVENTING CANCER CARE



JP MORGAN HEALTHCARE
CONFERENCE - 2017

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VARIAN
medical systems

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Medical Advice Disclaimer

Varian as a medical device manufacturer cannot and does not recommend specific treatment approaches. Individual treatment results may vary.

DRIVING FOR PROFITABLE GROWTH



- Addressing demographic needs
- Innovating for better quality, accessibility and cost of care
- Expanding installed base
- Building software & services
- Opening new markets
- Adding new treatment solutions

THE NEW VARIAN

Cancer Management Solutions

\$2.6B*

FY16
REVENUES



\$1.25B*

SOFTWARE &
SERVICE BUSINESS



6,400+

EMPLOYEES



7,500

MEDICAL LINEAR
ACCELERATORS



4,000+

SOFTWARE
INSTALLS



50+

PROTON THERAPY
ROOMS

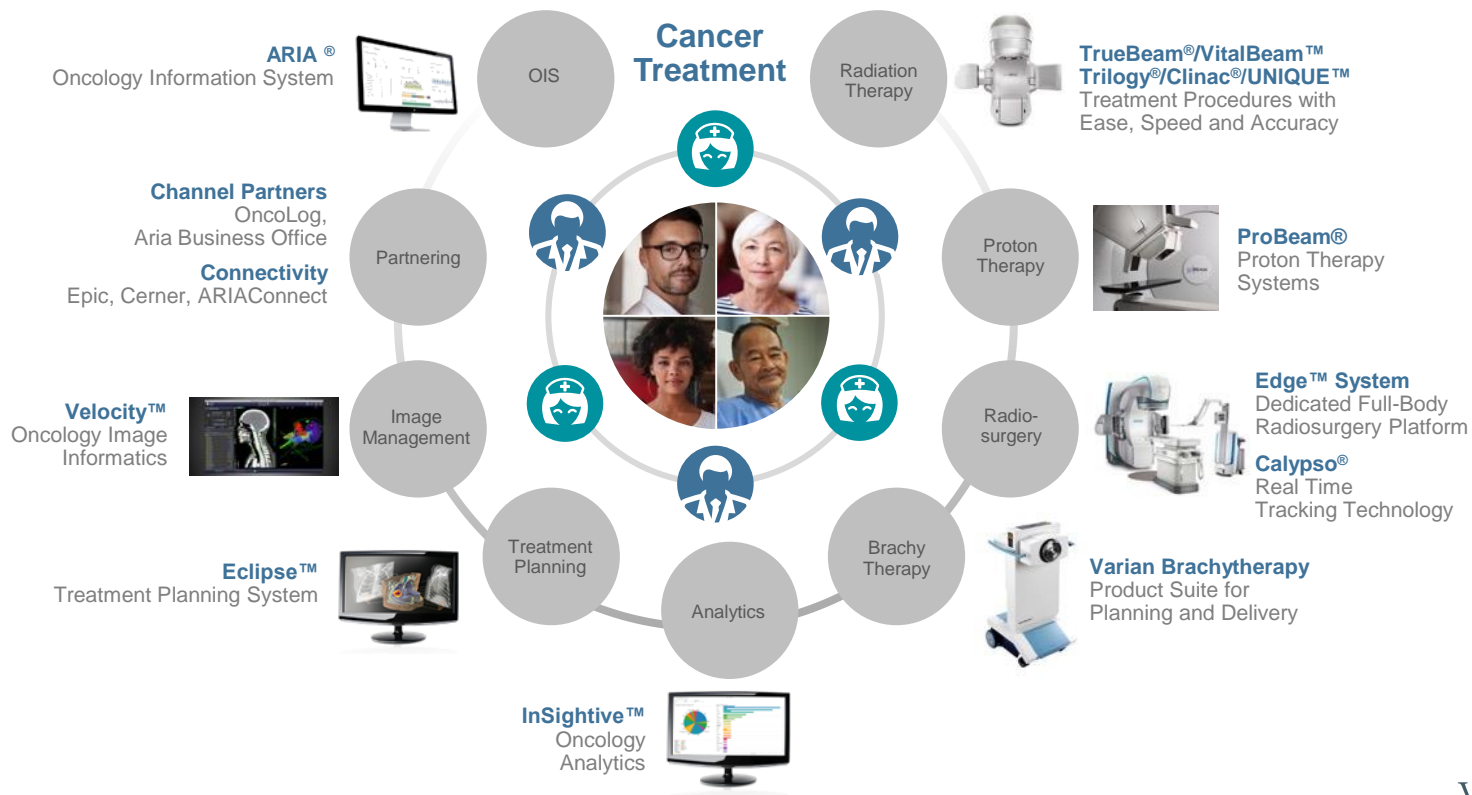


*Excluding Imaging Components

VARIAN: WHERE WE ARE TODAY



MOST COMPREHENSIVE ONCOLOGY PORTFOLIO



DEMOGRAPHICS: WORLDWIDE CANCER BURDEN



24.6

new cancer cases
per year by 2030



\$2T

global economic
burden in 2010

50-60%

of patients with cancer need RT



56%

of cancers diagnosed in
high income countries



10%

of patients have
access to RT in low
income countries



>20,000*

Linacs needed by 2035, with greatest
need in low and mid-income countries

*8,700 new machines plus 13,100 replacements = 21,800 additional machines needed
Expanding global access to radiotherapy. Lancet Oncol. Vol 16, Sept.2015

GLOBAL RADIOTHERAPY GAPS

KEYS TO CLOSING GAP

WHAT IS NEEDED	2015	GAP	2035
Radiation Oncology Centers	7,700	3,200	10,900
Linear Accelerators	13,100	21,800*	21,800
Radiation Oncologists	23,200	22,300	45,500
Medical Physicists	1,000	29,300	39,300
Radiation Technologists	33,300	96,900	130,200



AUTOMATION



SIMPLIFICATION



PRODUCTIVITY

EQUIP, EMPOWER EACH
CLINICIAN TO TREAT
MORE PATIENTS

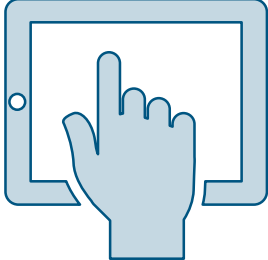
*8,700 new machines plus 13,100 replacements = 21,800 additional machines needed
Expanding global access to radiotherapy. Lancet Oncol. Vol 16, Sept.2015

RE-INVENTING CANCER CARE

Developing the opportunity to enhance cancer care globally



COST-EFFECTIVE
HIGH-QUALITY



SIMPLIFIED,
AUTOMATED,
FAST



GLOBALY
ACCESSIBLE

FOCUS OF VARIAN INNOVATIONS IN CANCER CARE



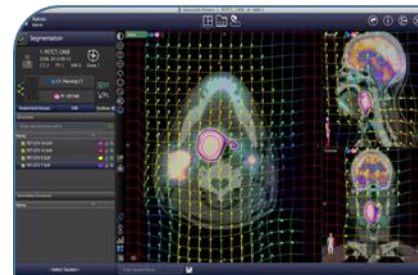
KNOWLEDGE-GUIDED
ONCOLOGY

RapidPlan



INTELLIGENT
TREATMENT DELIVERY

HyperArc HDRT



ADVANCED DATA
ANALYTICS

360 ONCOLOGY

RapidPlan™ A GAME CHANGER



GAINING MOMENTUM

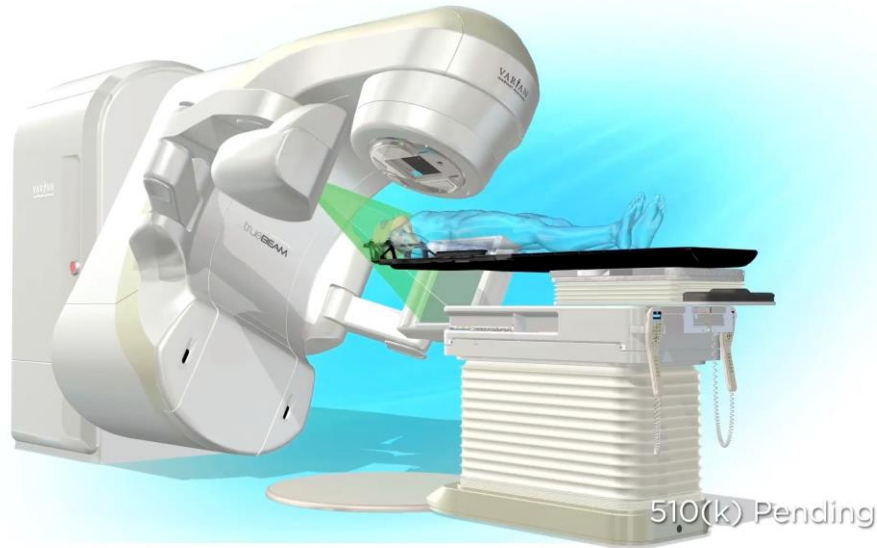
600

licenses ordered to date;
broad acceptance

10%

market penetration;
moving into mainstream

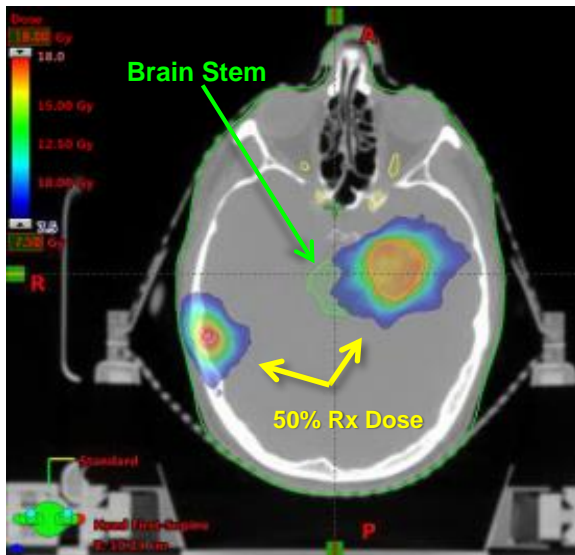
HyperArc™ ENABLING HIGH-DEFINITION RADIOTHERAPY



Aiming to
change cancer care
by simplifying, automating
and compacting
dose distribution

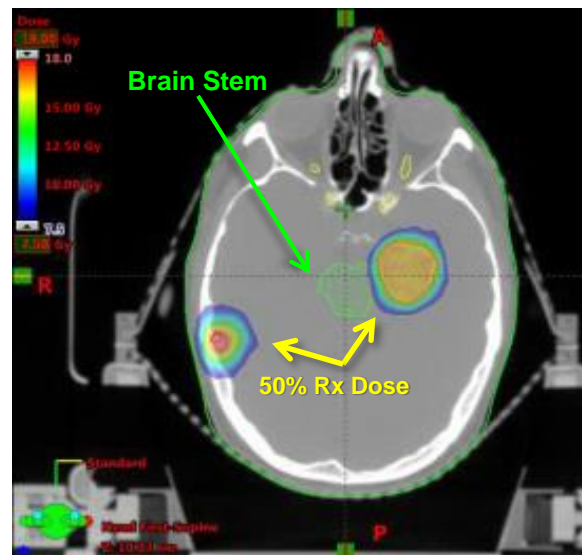
*HyperArc High Definition Radiotherapy is 510(k) pending. Not available for sale.

ESTABLISHING A NEW BENCHMARK FOR COMPACT DOSE, TREATMENT SPEED



Coplanar RapidArc SRS

vs.



Non-coplanar HyperArc RT

Eclipse planning for HyperArc HD Radiotherapy is works-in-progress. Not available for sale.

HIGH-DEFINITION RADIOTHERAPY



New product options:

- HDRT Treatment Mode*
- HDRT Planning Module**
- HDRT Virtual Dry Run**
- HDRT Patient Immobilization*

Product pre-requisites:

- TrueBeam or EDGE
- PerfectPitch™ Couch
- Eclipse IMRT

Aiming for
>\$500M
in orders
in 5 years

*HyperArc High Definition Radiotherapy is 510(k) pending. Not available for sale.

**Eclipse planning for HyperArc HD Radiotherapy is works-in-progress. Not available for sale.

RADIOSURGERY GROWING

108%
INCREASE
in SRS utilization
for brain cancer treatment

**SRS/SBRT
LEADS
GROWTH**

255%
INCREASE
in extracranial treatment
over the next decade*



*Source: SG2 Consulting, Skokie, Illinois, US

SRS CHANGING EQUIPMENT NEEDS IN US

- Move to SBRT/SRS driving replacement
 - Every center will need at least one SBRT unit

RADIATION THERAPY - US Transition of practice to increased SRS/SBRT/Hypo Fx

(Assumes 4000 machines in US market)

	2016	2030
US Cancer Patients total (new Dx)	1.6M	2.5M
RT Suitable (60% of patients)	1M	1.5M
SRS/SBRT (~3 Fx)	21%	39%
Hypofractionation (15 Fx)	20%	33%
Conventional (30 Fx)	59%	28%
Total Fractions	19.6M	20.1M
Total Time	303.4M	330.7M

FRACTION NUMBER
CHANGE

2%

Tx TIME CHANGE

9%

- ~3,500-4,500 new SBRT units needed over next 12-15 years in US

VARIAN LEADING IN ONCOLOGY SOFTWARE



>4,000+ installations globally

~\$500M annual revenues

Treatment planning

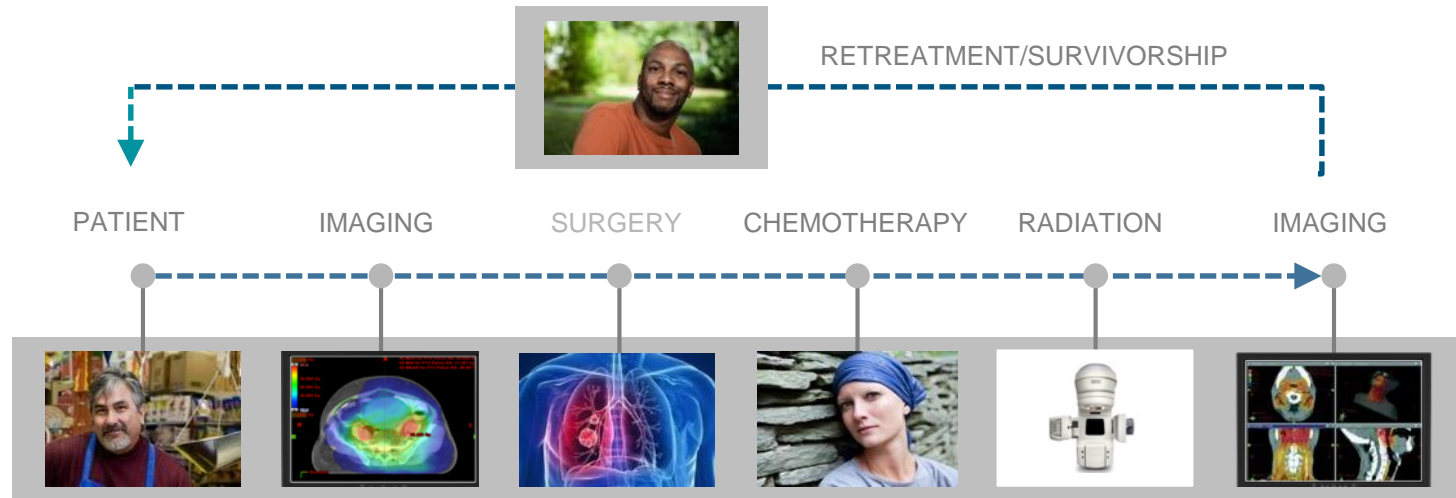
Information management

Data analytics

Coordinated cancer care

#1 in KLAS customer ratings

360 ONCOLOGY™ CARE COORDINATION SOFTWARE



A FIRST FOR MULTI-DISCIPLINARY TUMOR BOARDS, PATIENTS

360 CARE COORDINATION GROWTH OPPORTUNITY

~\$100M
market opportunity
by 2020

Key Customers

- Comprehensive Cancer Clinics
- Hospital and Clinical Networks
- Health Ministries

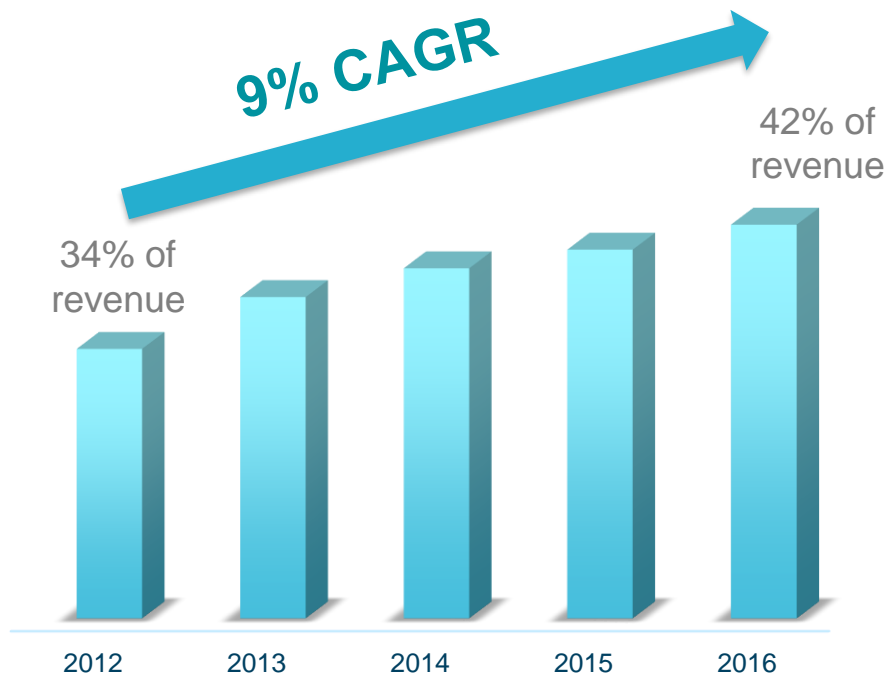
ENHANCING CYBER-SECURITY

Security Services

- **Keeping software systems current**
 - Contracts, paid upgrades
- **Keeping machine software current**
 - Contracts, system upgrades
- **Shifting to Varian Managed Services**
 - FullScale cloud migrations
- **Migration to all-Varian systems**
 - Fully-integrated security models

~\$80M
market opportunity
by 2020

ONCOLOGY SERVICE GROWTH



Drivers

Expanding installed base

TrueBeam conversions

Software support agreements

Managed, professional services

VARIAN INSTALLED BASE TARGET



10,000

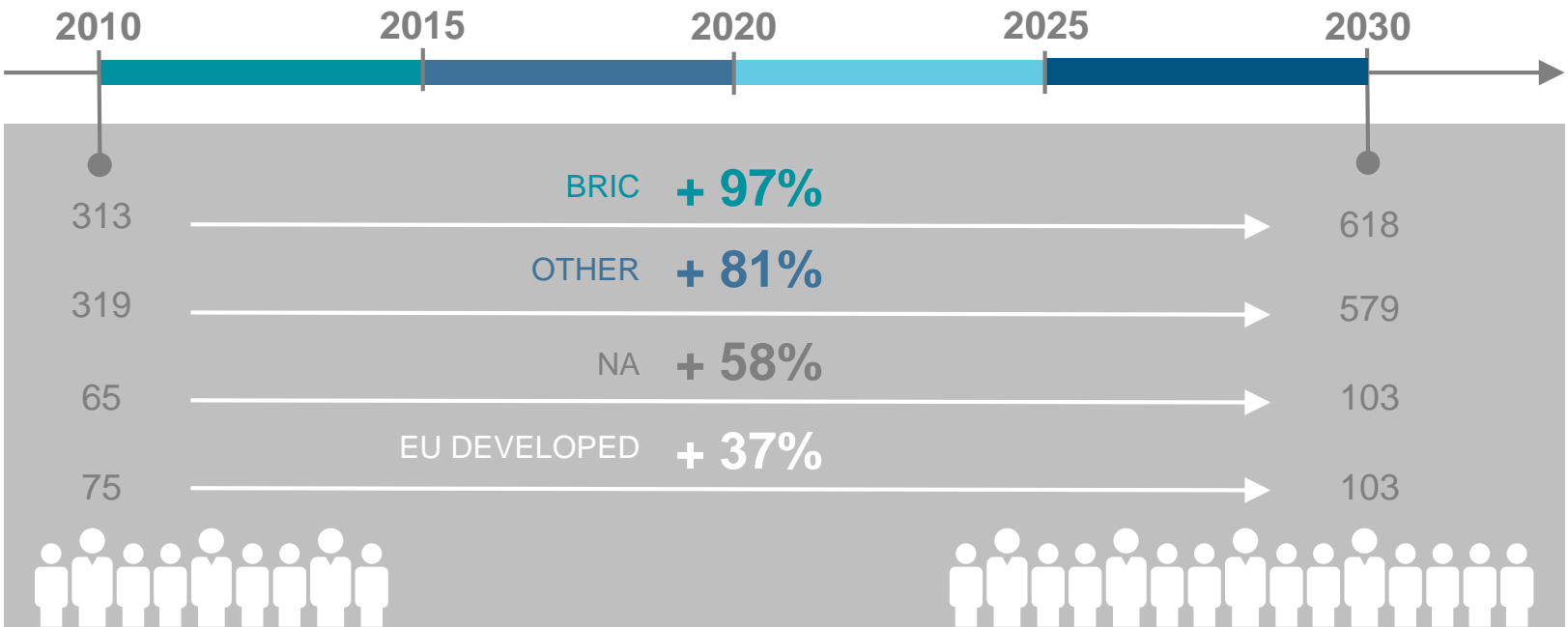
machines by 2022

BUILDING BASE FOR

- Service
- Software
- Accessories
- Upgrades

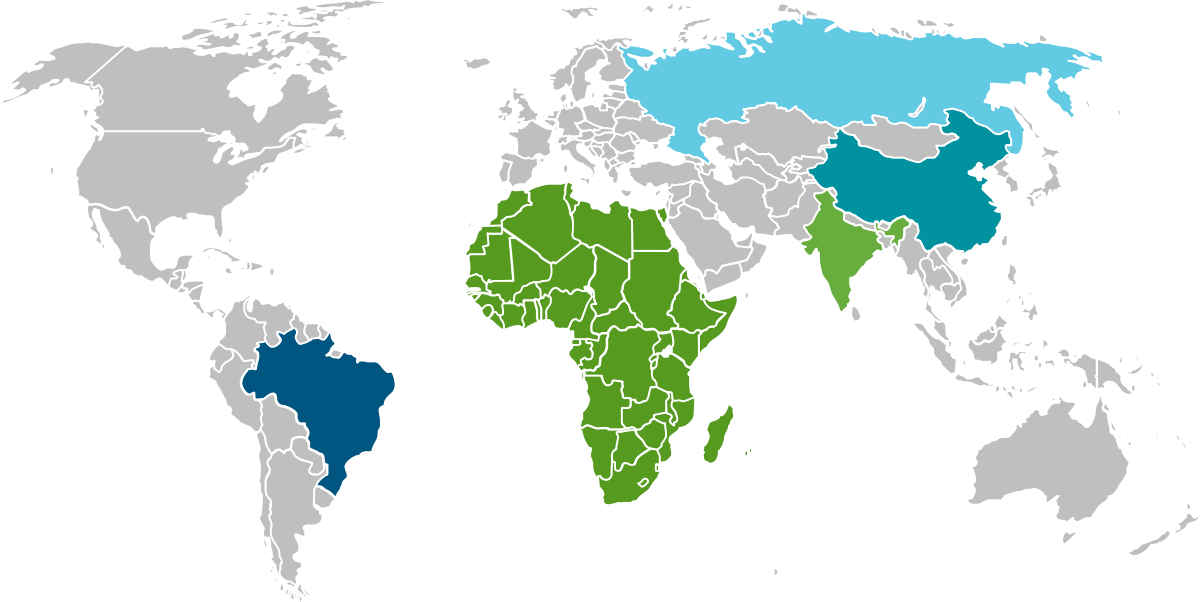
NEEDS GROWING FASTEST OUTSIDE USA, EU

PEOPLE 60 YEARS AND OLDER (IN MILLIONS)



Expanding global access to radiotherapy. Lancet Oncol. Vol 16, Sept.2015

BRICA REVENUE GROWTH



7%

combined 5yr CAGR

12%

of total sales

\$300+

combined revenue

—
\$ in millions

LMIC OPPORTUNITY – CALL FOR CANCER PLANS



TARGET BY 2020:

80%

of countries should have cancer plans that include radiotherapy.

POPULATION BASED
CANCER CONTROL PLANS



Expanding global access to radiotherapy. Lancet Oncol. Vol 16, Sept.2015

LMIC OPPORTUNITY – CALL FOR INCREASE IN RT



TARGET:

25%

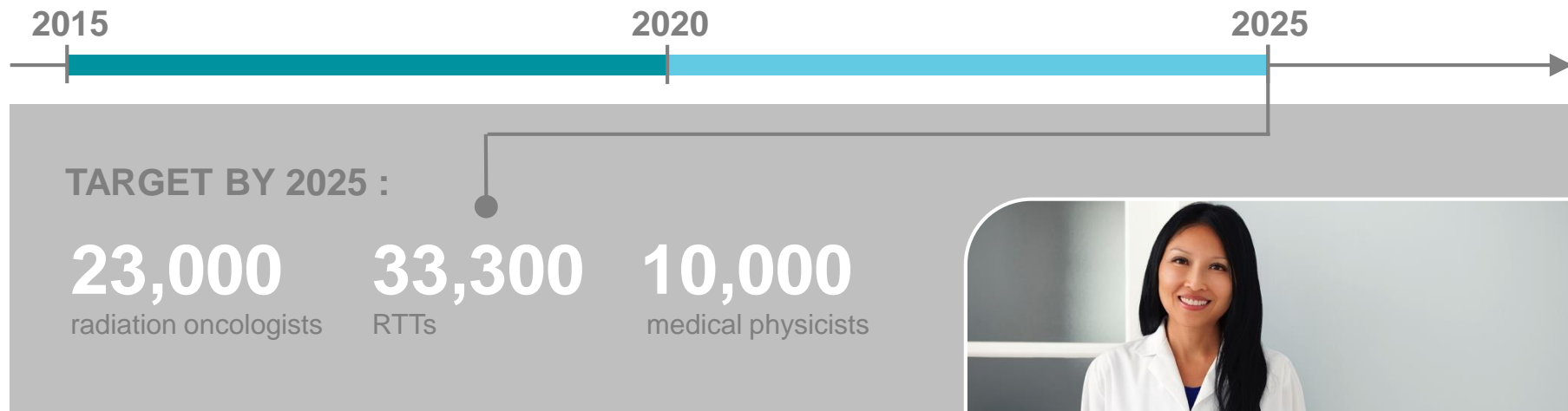
increase in RT
capacity from
2015 to 2025

EXPANSION OF ACCESS
TO RADIOTHERAPY



Expanding global access to radiotherapy. Lancet Oncol. Vol 16, Sept.2015

LMIC OPPORTUNITY – CALL FOR MORE CLINICIANS



HUMAN RESOURCES FOR RADIOTHERAPY

Expanding global access to radiotherapy. Lancet Oncol. Vol 16, Sept.2015

LMIC OPPORTUNITY – CALL FOR INVESTMENT



TARGET BY 2025:

\$46B

of investment to establish
radiotherapy infrastructure
and training in LMIC

**SUSTAINABLE FINANCING
TO EXPAND ACCESS TO
RADIOTHERAPY**



Expanding global access to radiotherapy. Lancet Oncol. Vol 16, Sept.2015

LMIC OPPORTUNITY – CALL FOR ACCESS TO RT



TARGET BY 2020:

80%

of LMIC to include
RT services as part of
universal health coverage

**ALIGN RADIOTHERAPY
ACCESS WITH UNIVERSAL
HEALTH COVERAGE**



Expanding global access to radiotherapy. Lancet Oncol. Vol 16, Sept.2015

VARIAN ACCESS TO CARE INITIATIVE



EXPANDING GLOBAL TEAM

PARTNERING TO BUILD ACCESS TO CANCER CARE

- Governments
- Financiers
- Clinicians
- Patient advocacy groups

PROMOTING AWARENESS

- Lancet Oncology Commission
- PR/Government Affairs

PROTON THERAPY – BUILDING CRITICAL MASS

2 UK Proton Therapy Centers

UCLH London, Christie Manchester – 6 gantries



UNIVERSITY OF MARYLAND

2 treatment rooms plus 3 completed rooms



CINCINNATI CHILDREN'S HOSPITAL

2 treatment rooms plus 1 completed room



HOLLAND PTC

3 treatment rooms



SINGAPORE INSTITUTE OF ADV MED

1 Compact treatment room



AARHUS PTC - DENMARK

2 treatment rooms



NEW YORK PTC

4 treatment rooms



PAUL SCHERRER INSTITUTE (PSI)

1 treatment room



PTC ST PETERSBURG, RUSSIA

2 treatment rooms



KFMC-KING FAHD MEDICAL CENTER

5 treatment rooms



NATIONAL TAIWAN UNIVERSITY

3 TREATMENT ROOMS



CHINA PT CENTER (HEIFI)

4 treatment rooms plus 1 research room



55 rooms (36 in backlog, 13 completed, and 6 under contract but not booked)

VARIAN ORGANIC LONG-TERM GROWTH POTENTIAL

4-6%

SALES GROWTH

22%

OPERATING MARGIN



INVESTMENT SUMMARY: NYSE: VAR



- Sharpened focus on cancer care
- Rising global cancer burden
- Market leader, largest installed base
- Winning product portfolio
- Robust innovation pipeline
- Service momentum
- Strong financial performance

RE-INVENTING CANCER CARE



THANK YOU

VARIAN
medical systems