

PORTALYZE

Non-invasive Prostate cancer detection kit to help men reduce unnecessary biopsy by at least half

Sep 2022

PORTALYZE

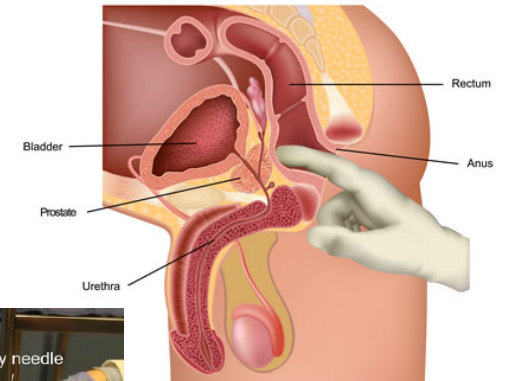
STAYING CURIOUS STAYING OPTIMISTIC

CURRENT PCa DIAGNOSIS METHOD

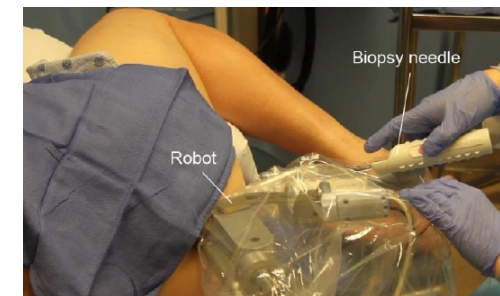
❖ Primary screening - PSA (prostate specific antigen) screening test



❖ Secondary screening – DRE (Digital rectal exam)



❖ Final Diagnosis – Biopsy aided with Transrectal ultrasound



Erectile dysfunction



Bone pain and stiffness



Blood in semen



Pelvic discomfort



Weak urinating



Difficulty urinating

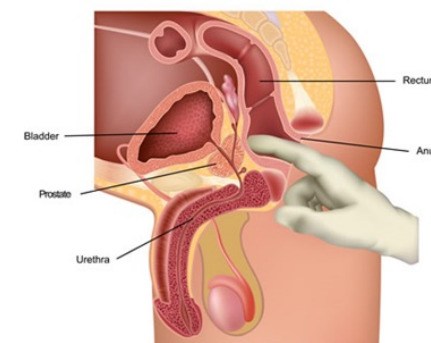


Old age

PROBLEM



60% of prostate cancer screening produces FALSE POSITIVE



UNNECESSARY invasive confirmatory tests



Frequent visits to hospital for mild-grade cancer patients

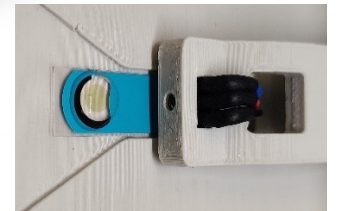
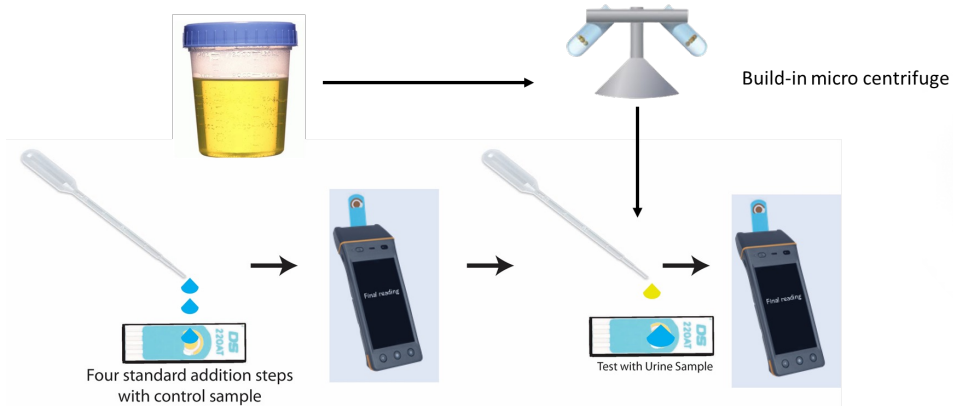


Inconvenient especially for elderly

PORTALYZE

STAYING CURIOUS STAYING OPTIMISTIC

PRODUCT – PCa DIAGNOSIS



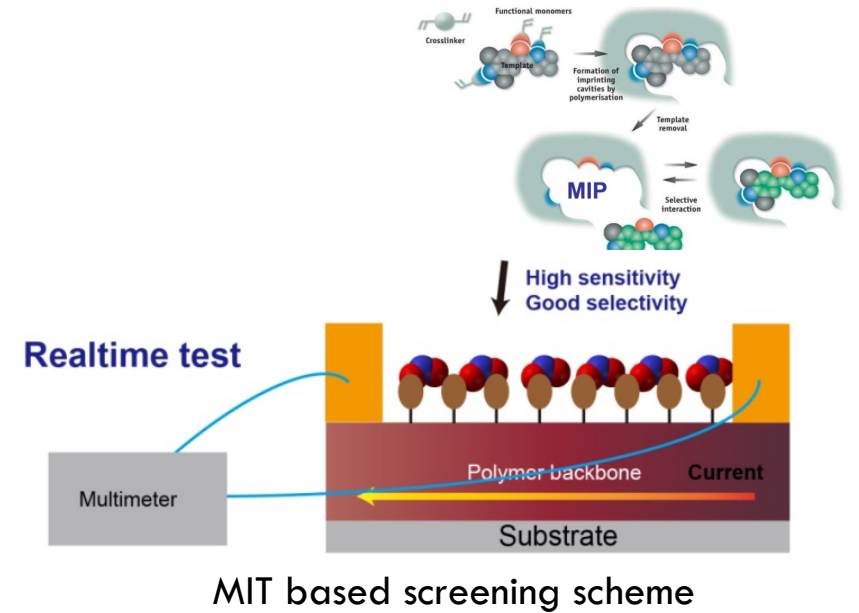
PORTALYZE TEST

PORTALYZE

STAYING CURIOUS STAYING OPTIMISTIC

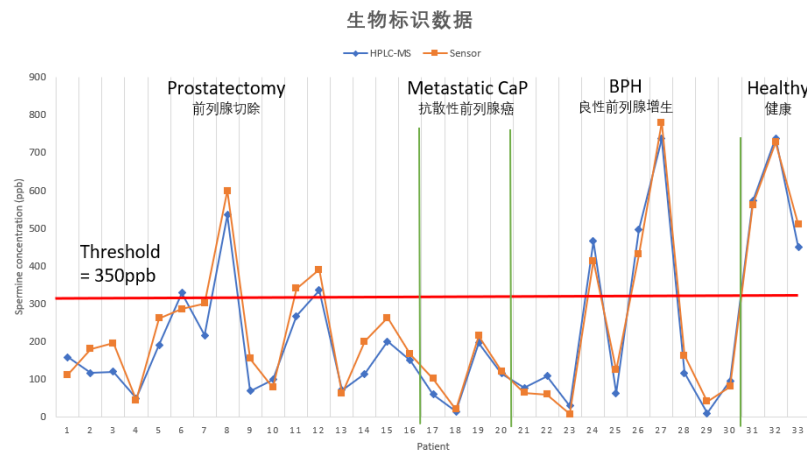
TECHNOLOGY BRIEF

- ❖ Technology: Molecular Imprinting technique (MIT)
- ❖ 2 background IP licensed from CityU
- ❖ 1 granted patent in China
- ❖ 4 patents will be filed in the next 2 years



		HK Queen Mary Hospital Patient disease (PCa) condition	
		Positive	Negative
PORTALYZE TEST	Positive	18	7
	Negative	2	6

Results from clinical samples from Queen Mary Hospital

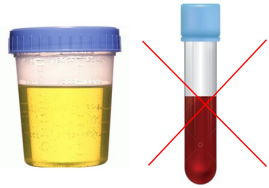


Inventions Geneva 2019 Gold medal
(For Founders)

PORTALYZE

STAYING CURIOUS STAYING OPTIMISTIC

VALUE PROPOSITION



Non-invasive method to test for prostate cancer biomarker in urine

- ❑ Simpler sampling methods leads to higher test compliance for better monitoring
- ❑ Can be operated without special training (i.e., no phlebotomy required)



Reduction of unnecessary biopsies

- ❑ Higher specificity of biomarker leads to a false positive reduction rate of >50% while keeping the good sensitivity



Low cost

- ❑ Reduce public health expenditure
- ❑ Material cost of sensor strip and chemicals <\$1 per test



30 min

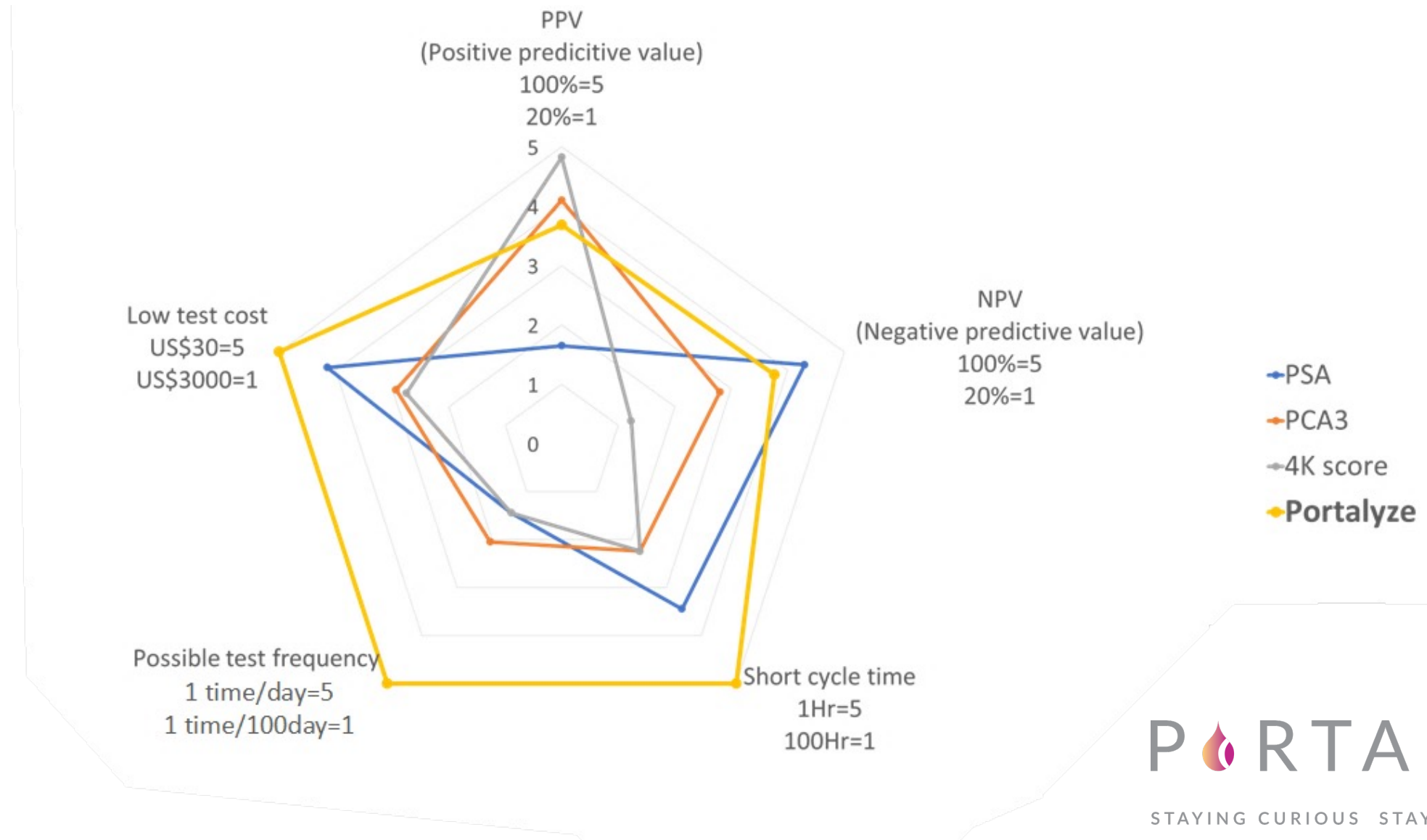
Time saving

- ❑ Rapid results in 30 minutes
- ❑ Patients can conduct the test by themselves at home and upload data to cloud
- ❑ Tests can be performed at home/bedside

P  **RTALYZE**

STAYING CURIOUS STAYING OPTIMISTIC

COMPETITION



TEAM

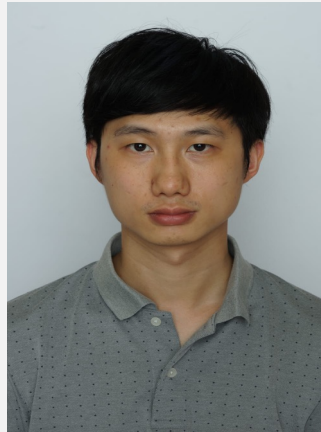
CORE TEAM



Lau, Siu Chuen
*Chief Executive
Officer*



**Venkatesh,
Shishir**
Chief Scientist



**Yeung, Chi
Chung**
Senior Scientist.

ADVISORS & COLLABORATORS



**Prof. Roy
Vellaisamy,**
*University of
Glasgow*



**Prof. Michael
Lam, City
University of Hong
Kong**



**Prof. Hing
Leung, Beatson
Cancer Research
Institute**



STAYING CURIOUS STAYING OPTIMISTIC

ACHIEVEMENTS



Apr 2019

- **Received Gold Medal** from Inventions Geneva in 2019



Sep 2019

- **Licensed 3 patents** from the City University of Hong Kong



Sep 2020

- **Completed clinical validation** with the samples from Queen Mary Hospital, Hong Kong



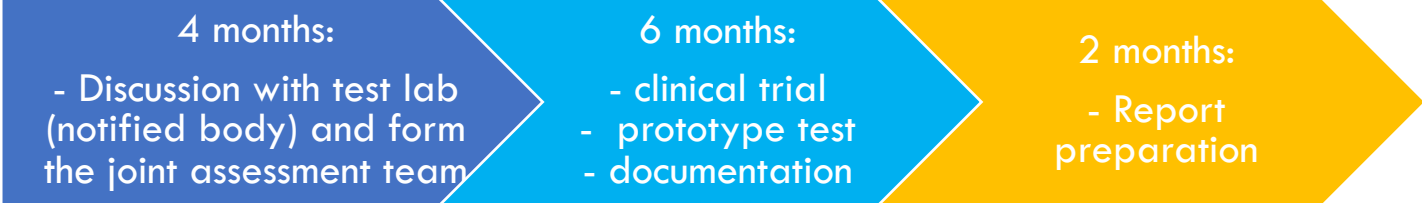
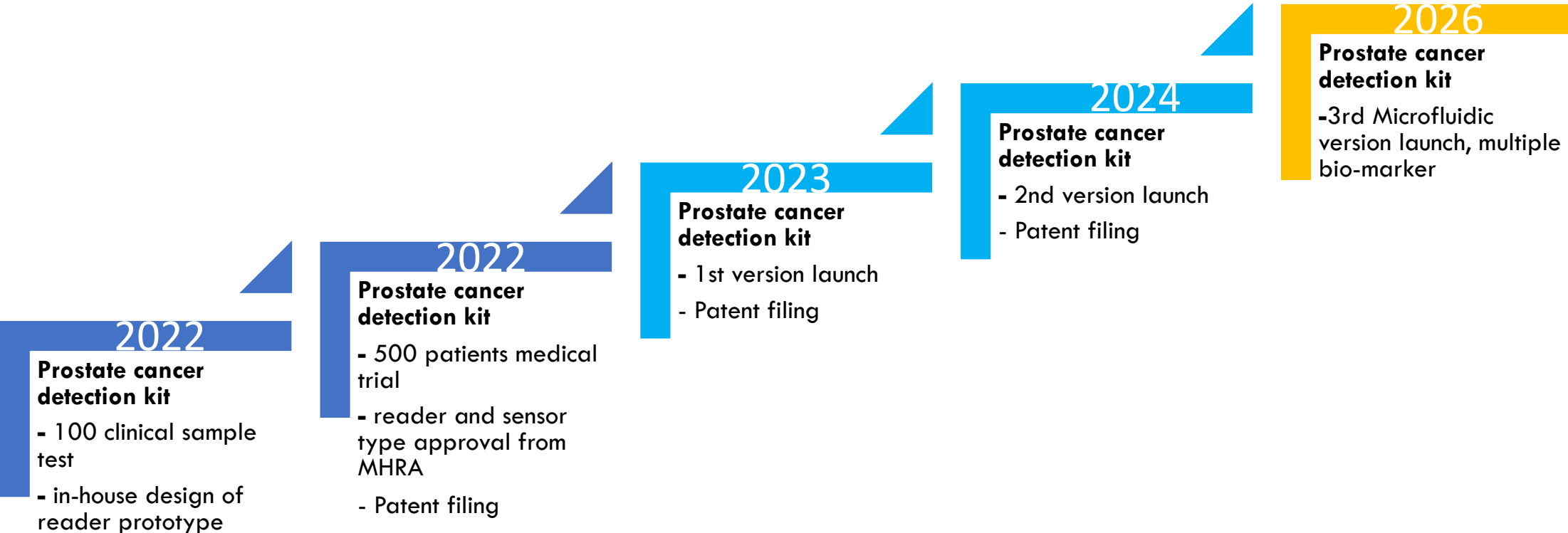
Nov 2020

- **Secured Key Collaborator** - Dr. Hing Leung (Beatson Cancer Research Institute, Glasgow, UK)

PORTALYZE

STAYING CURIOUS STAYING OPTIMISTIC

PRODUCT ROADMAP



DEVELOPMENT STATUS

❖ Reader prototype

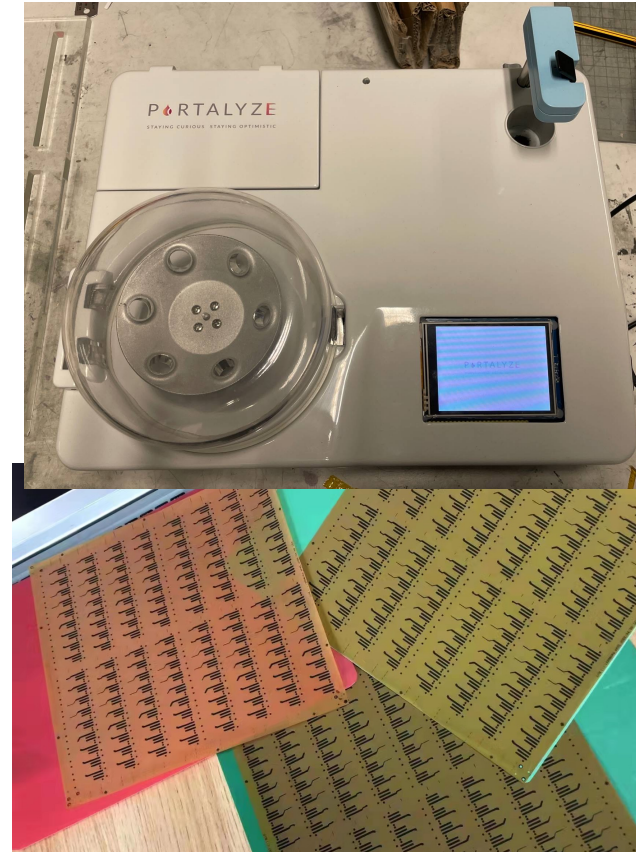
- ◆ 5 sets of functional prototype built
- ◆ 2 of them will send to UK for clinical trial

❖ Sensor

- ◆ Inhouse sensor substrate is under development

❖ Patent

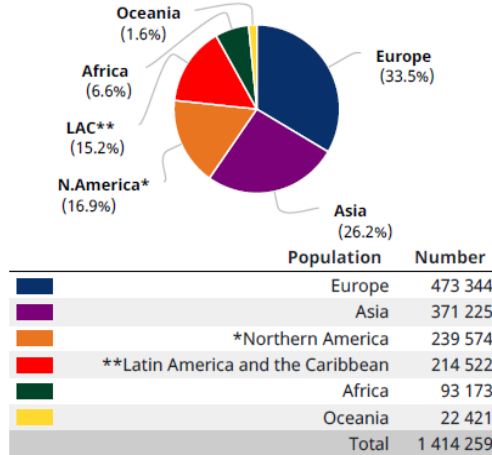
- ◆ 1 granted patent,
- ◆ 1 draft under review, will submit very soon
- ◆ The third one will start drafting once the second submitted



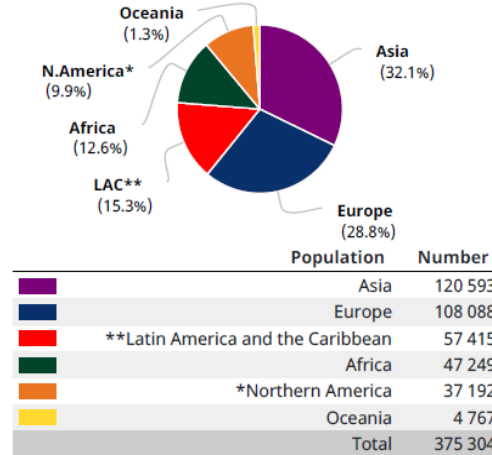
PROSTATE CANCER – STATISTICS

(FROM W.H.O. OBSERVATORY)

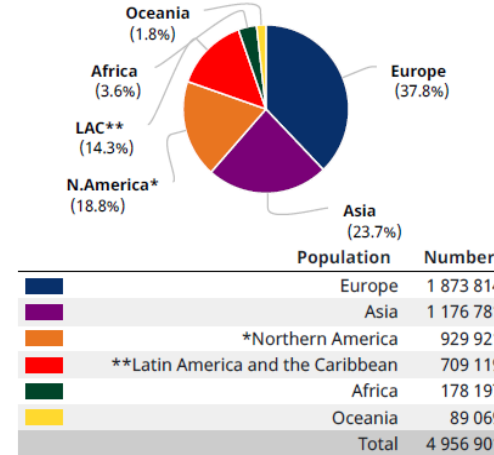
Incidence, both sexes



Mortality, both sexes



5-year prevalence, both sexes



	YEAR 2020 ('000)			YEAR 2040 projection ('000)	
	New case	Deaths	5-year prevalence	New case	Deaths
CHINA	115.4	51.1	402.5	229	119
ASIA	371.2	120.6	1176.8	632.9	256.4
UK	56.8	13.2	136.5	75.1	21.4
EUROPE	473.3	108.1	1873.8	603.6	167.4
USA	209.5	32.4	812.4	257	58.6
North America	239.6	37.2	930	295.9	68.3

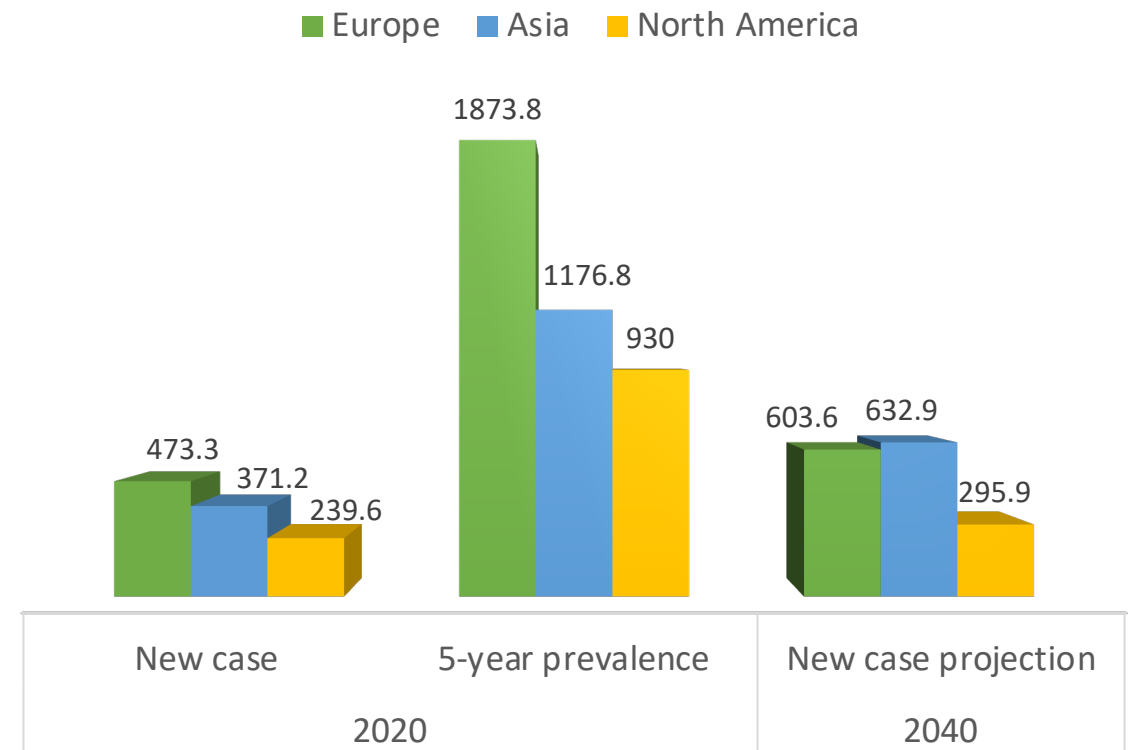
Testing required for:

- New cases (**asymptomatic patient** screening and diagnosis)
- Monitoring markers during treatment and active surveillance

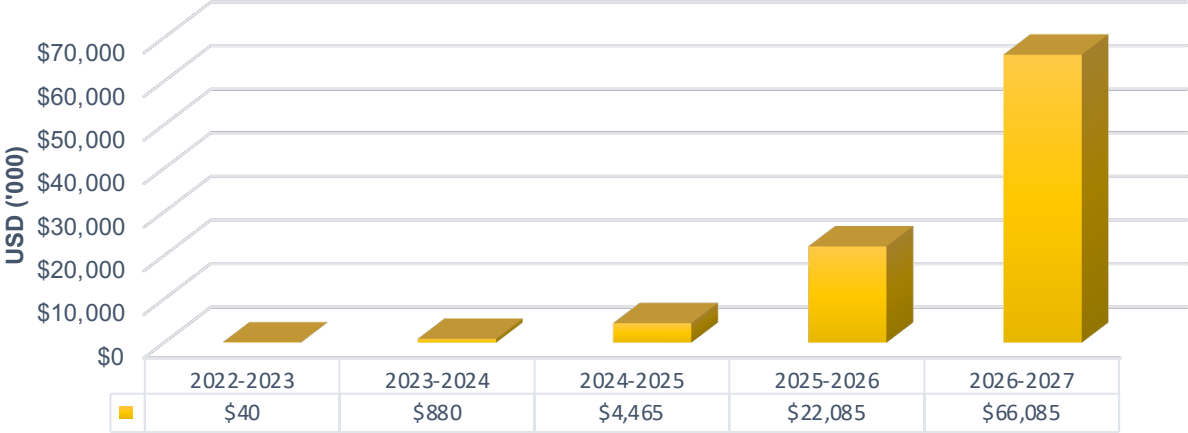
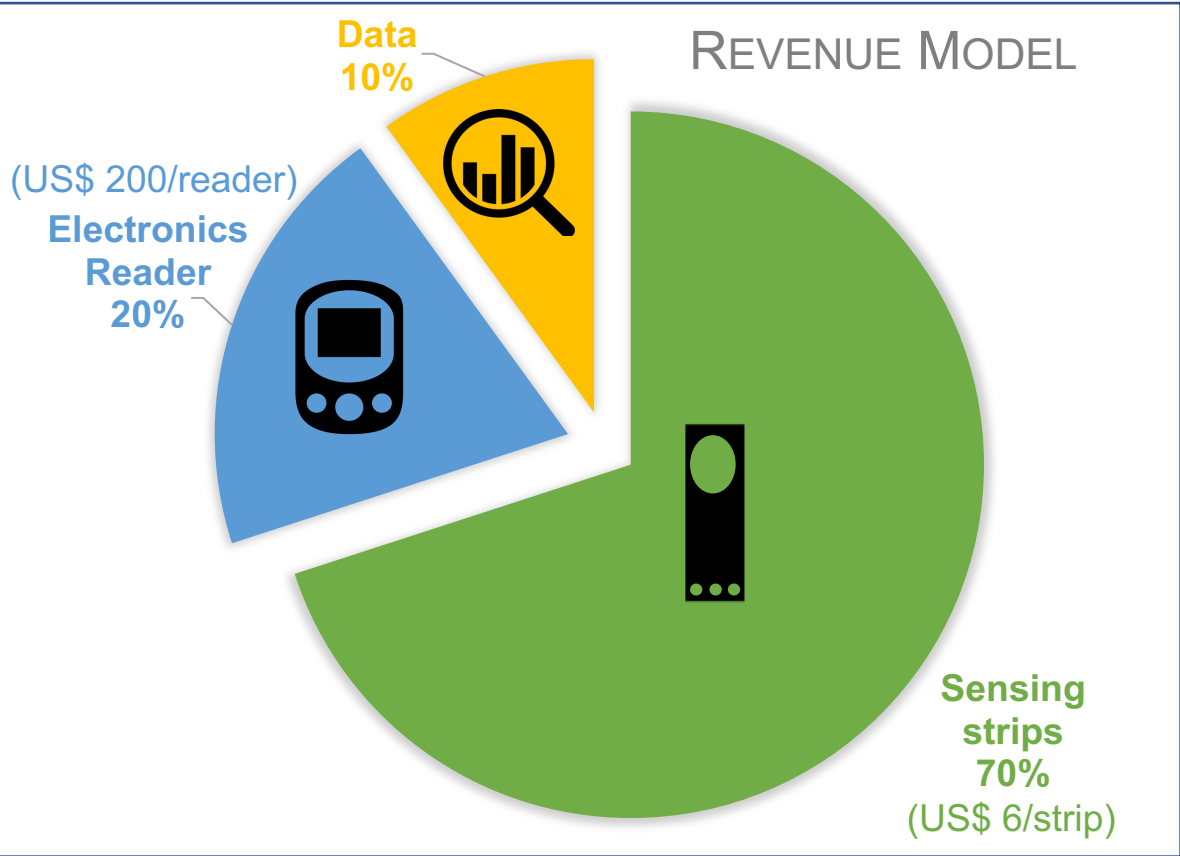
MARKET ANALYSIS



WHO Prostate cancer statistics ('000)



BUSINESS MODEL



Revenue projection

TARGETED PARTNERS:

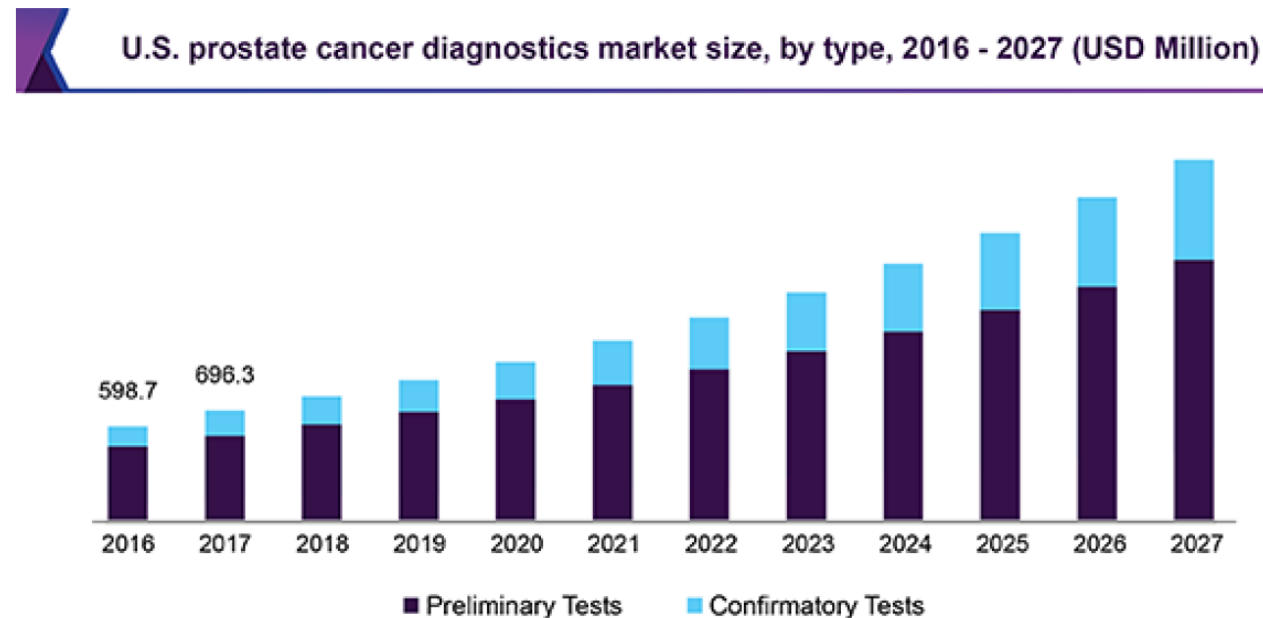
Strategy: Private label to PSA big brand

Priority: ①UK+EU; ②ASIA; ③NORTH AMERICA

Market Prediction

❖ Year 2024

- ◆ The PCa diagnostics market in the U.S. is estimated at \$2.2 billion, and the number of patients in the EU is around 2.2 times more than in the U.S. So, the EU market is estimated at \$4.84 billion. We expect the product to gain 0.1% market share in the EU after the first year of launch, or \$4.84 million.



Source: www.grandviewresearch.com