



**SESSION 7: CLINICAL ADOPTION OF NEW IMAGING TECHNOLOGIES AND WHERE INDUSTRY SHOULD MOVE IN THE FUTURE**

**What are the barriers to dissemination and impact? What are the incentives for market adoption?**

Where do we go from here in CT (cardiac CT, photon counting CT)? - Industry Perspective (P. Fischer, SIEMENS)

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What are the incentives for market adoption?**

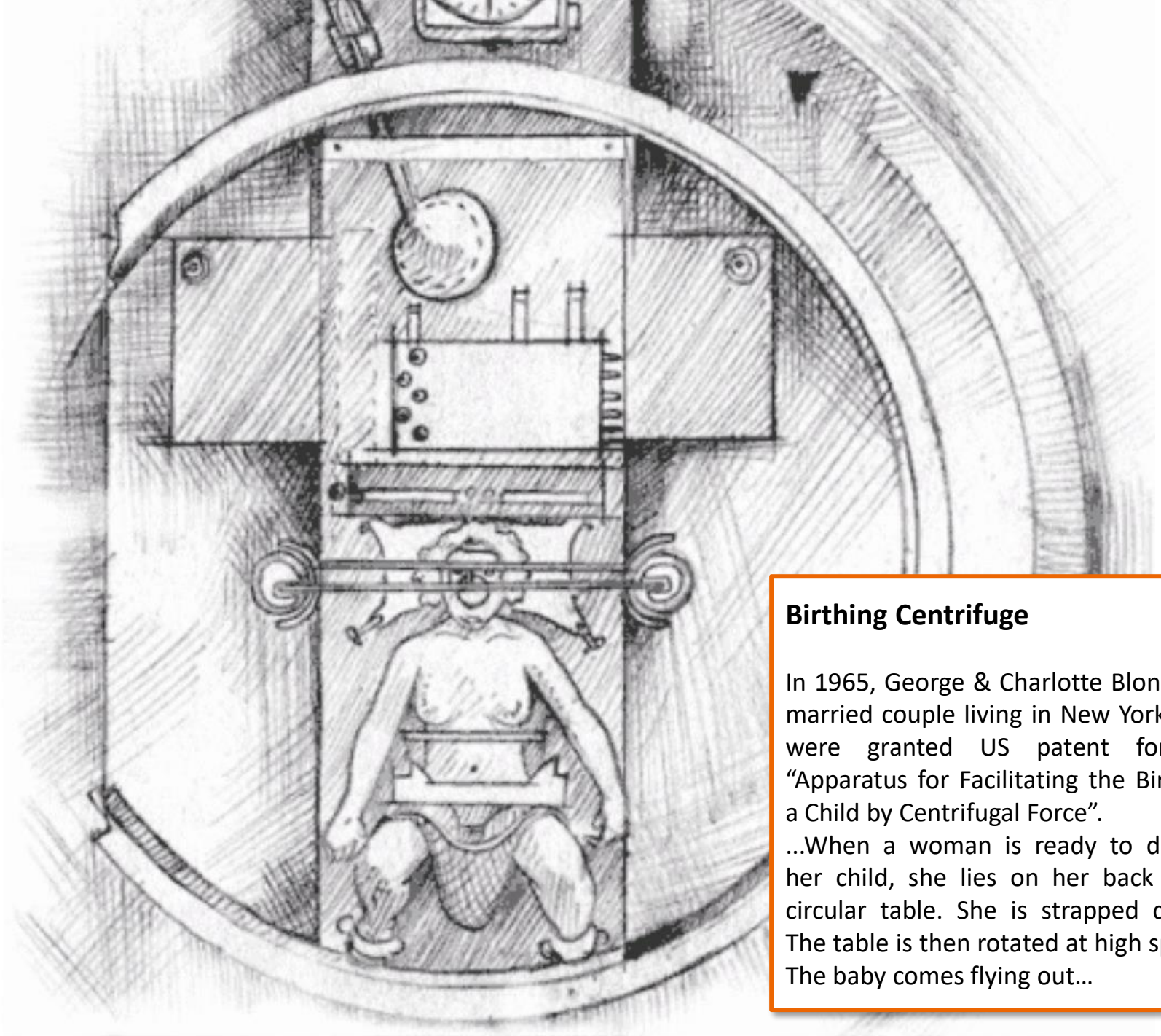
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*... is it really barriers?*

What are the **barriers** to dissemination and impact?  
What are the incentives for market adoption?

## *The value of hurdles*



### **Birthing Centrifuge**

In 1965, George & Charlotte Blonsky, a married couple living in New York City, were granted US patent for an "Apparatus for Facilitating the Birth of a Child by Centrifugal Force".

...When a woman is ready to deliver her child, she lies on her back on a circular table. She is strapped down. The table is then rotated at high speed. The baby comes flying out...

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*... is it really barriers?*

What are the **barriers** to dissemination and impact?

What are the **incentives for market adoption?**

*... what works, what doesn't?*

# The race towards clinical impact and market adoption



**Dual Energy CT**

**CT FFR**

PET-MR

Invasive FFR

**CT Colonography**



Renal denervation

7T MR

**Cardiac CT**

**Computed Tomography**

**MRI**

Digital Breast Tomosynthesis



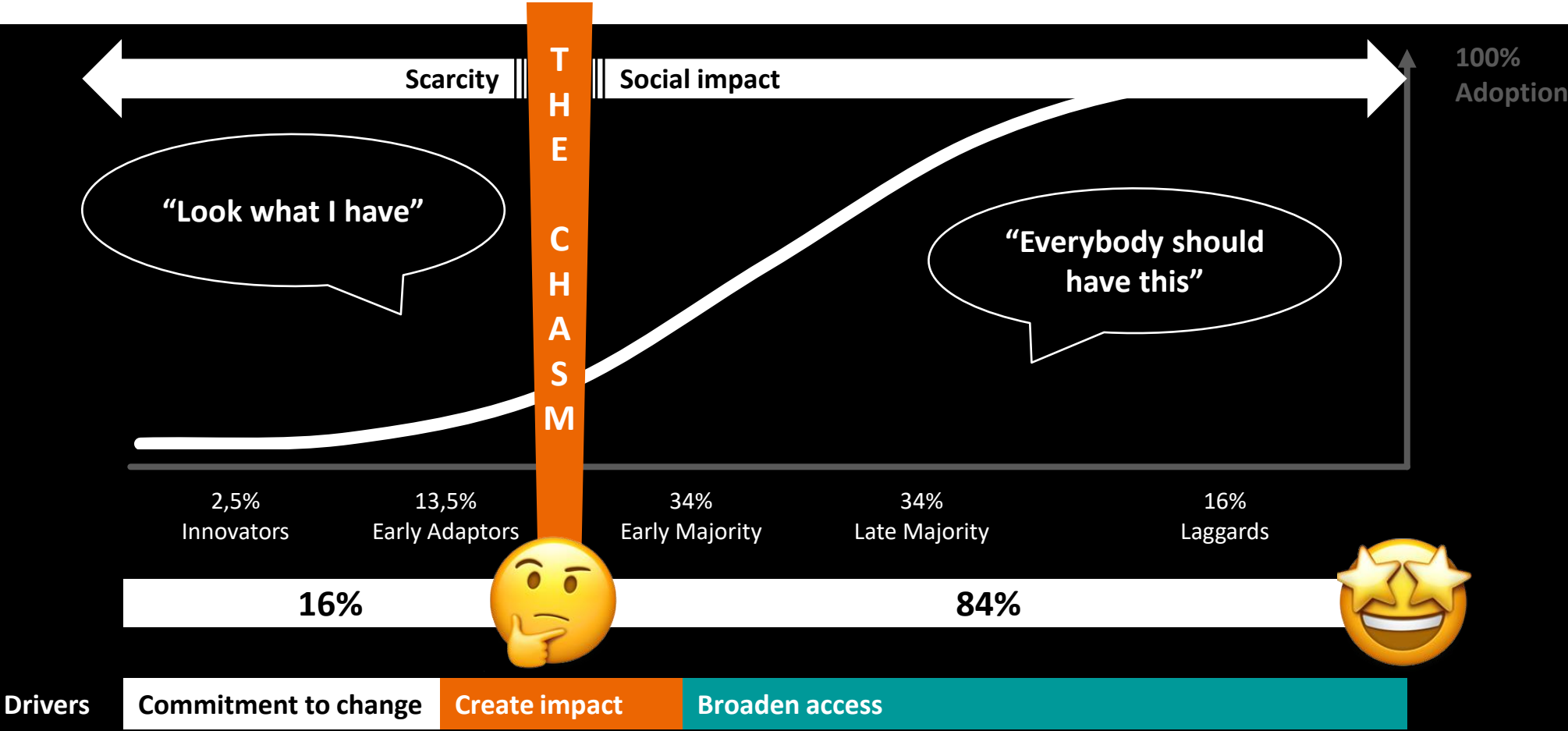
**TAVR**

**Cardiac Troponin**

Stroke thrombectomy

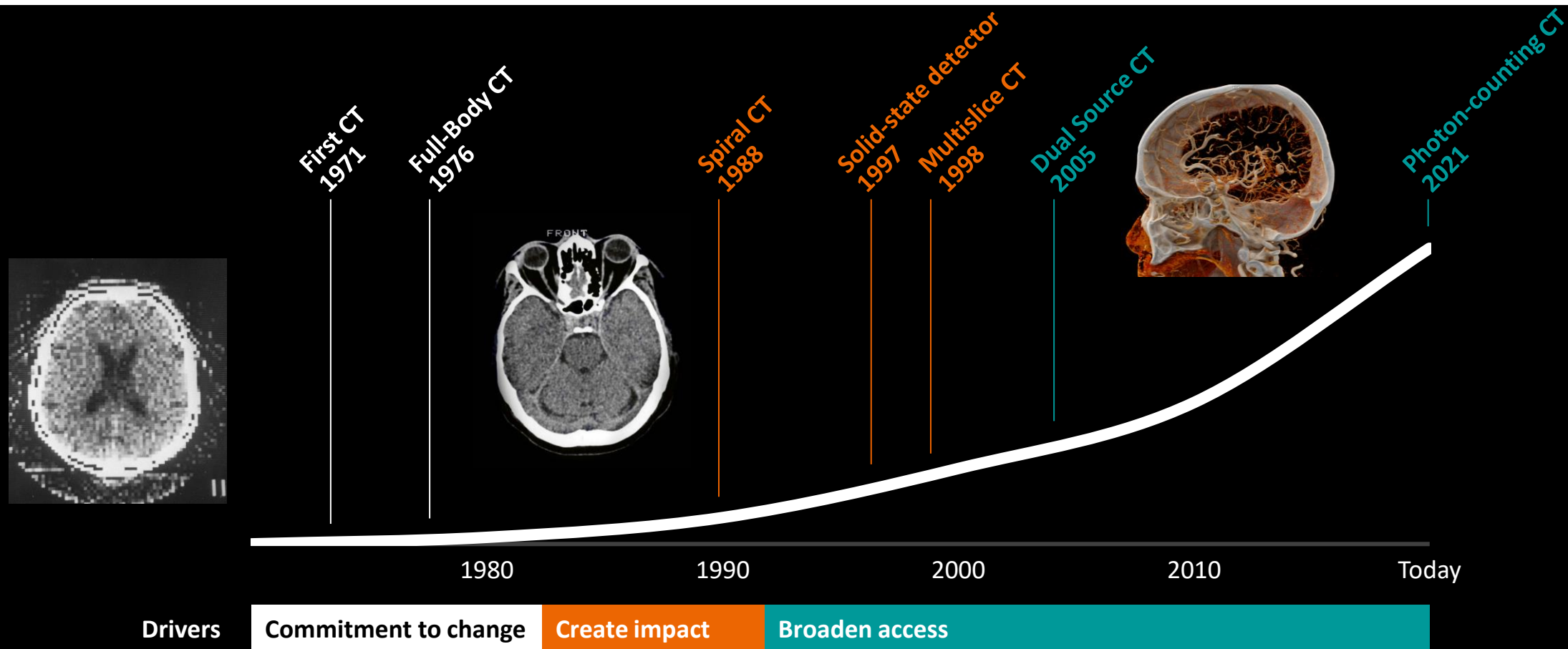
Coronary Stenting

# Accelerating diffusion of innovation: Maloney's 16% rule



# The adoption of Computed Tomography

## A helicopter view





**Commitment to change**

... to collaborate towards  
a joint vision

**Create impact**

... to patients  
... to care providers  
... to healthcare payers  
... to industry

**Broaden access**

... for everyone. Everywhere.

# Establishing the era of photon-counting CT

## Drivers for clinical impact and market adoption

▶ *Team of  
pioneers*



### Commitment to change

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### Create impact

... to patients  
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# Forming collaborations towards a joint vision

A new level of relevance with photon-counting CT.

We establish the clinical value.  
We set the standard.  
We scale.

► *Team of pioneers*



Commitment to change

powered by  
collaboration & courage

FDA NEWS RELEASE  
**FDA Clears First Major Imaging Device  
Advancement for Computed Tomography in  
Nearly a Decade**

**20+** years of  
development

Healthcare providers

&

Industry

Clinical “tandem” expertise  
Patient perspective  
Clinical research & development  
Strong networks / clinical societies

Technology expertise  
Prototype & system development  
Marketing & communication  
Medical affairs & health economics

# Establishing the era of photon-counting CT

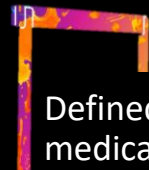
## Drivers for clinical impact and market adoption

► *Team of pioneers*



### Commitment to change

... to collaborate towards a joint vision



Defined medical need

### Create impact

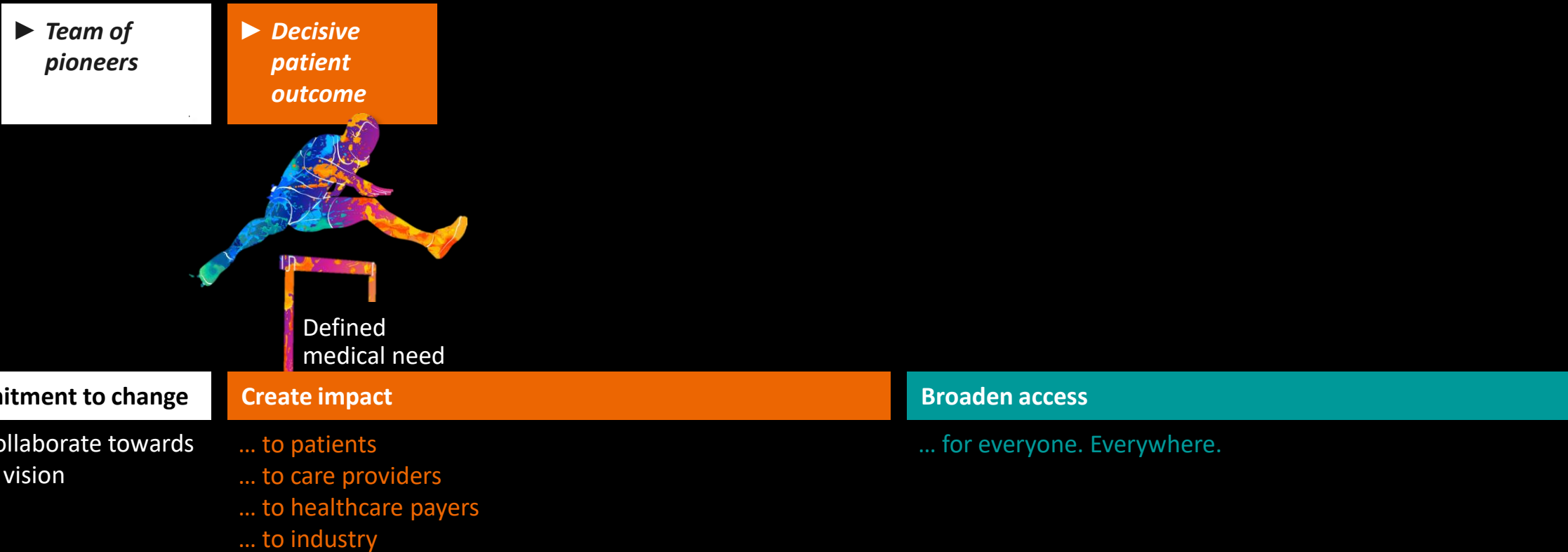
... to patients  
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# Establishing the era of photon-counting CT

## Drivers for clinical impact and market adoption



# Coronary CT

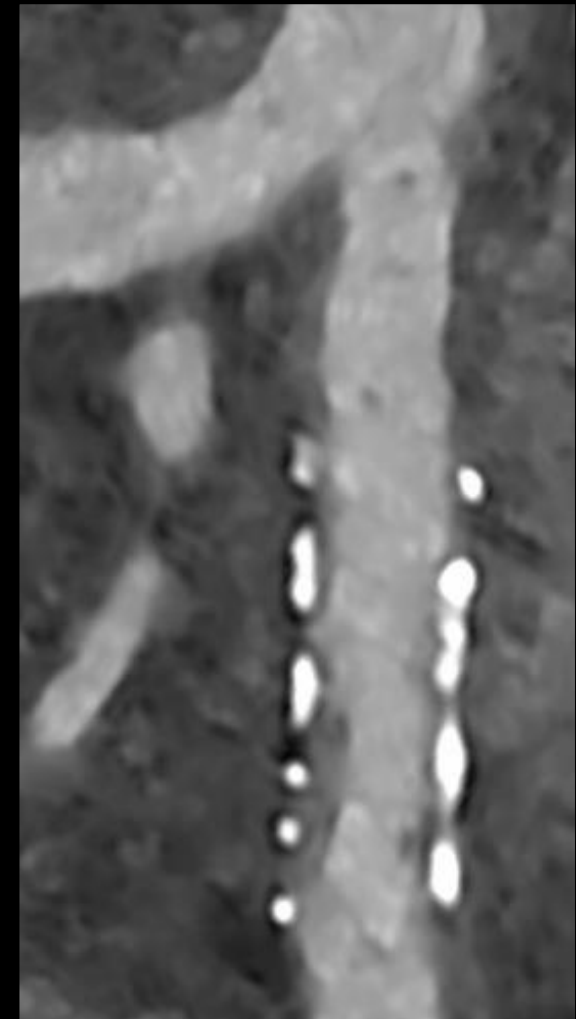
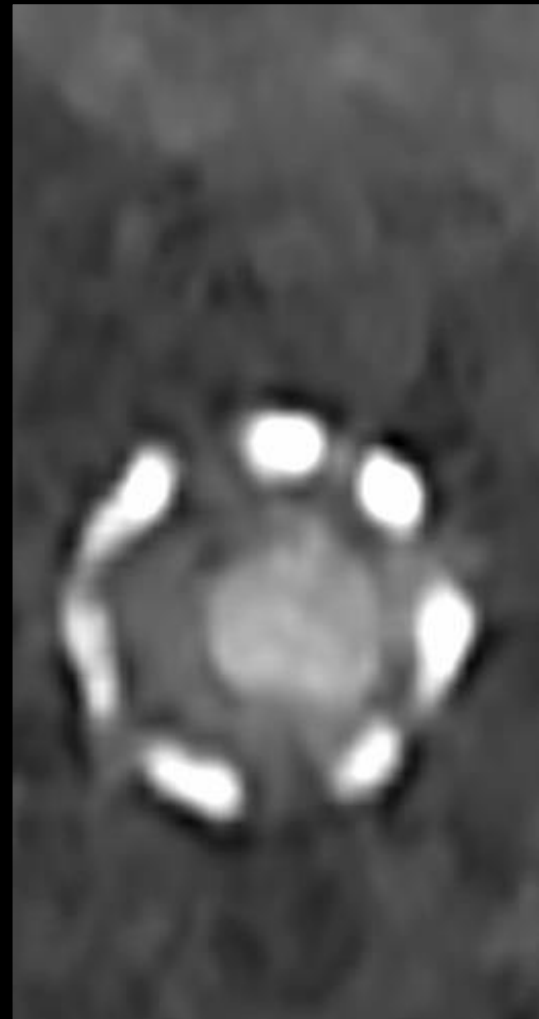
## In-stent restenosis in a 2,5mm stent

► *Decisive patient outcome*



Defined medical need

Create impact



# CT Myelography

## Diagnosis of Cerebrospinal Fluid Venous Fistula (CVF)

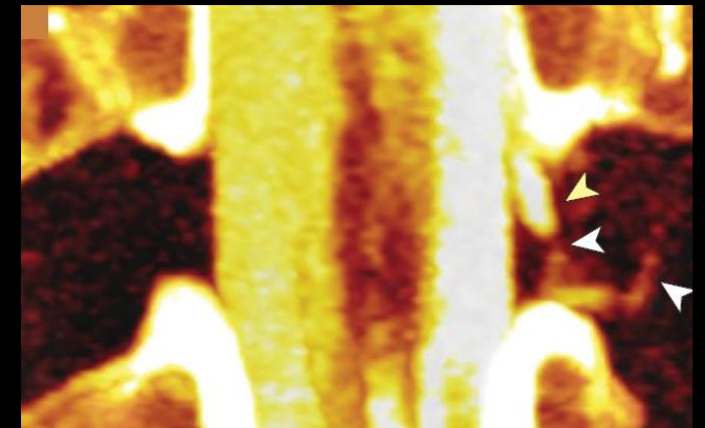


56-yo patient with spontaneous intracranial hypotension

Conventional CT



NAEOTOM Alpha



► *Decisive patient outcome*



Defined medical need

Create impact

# Pulmonary CT

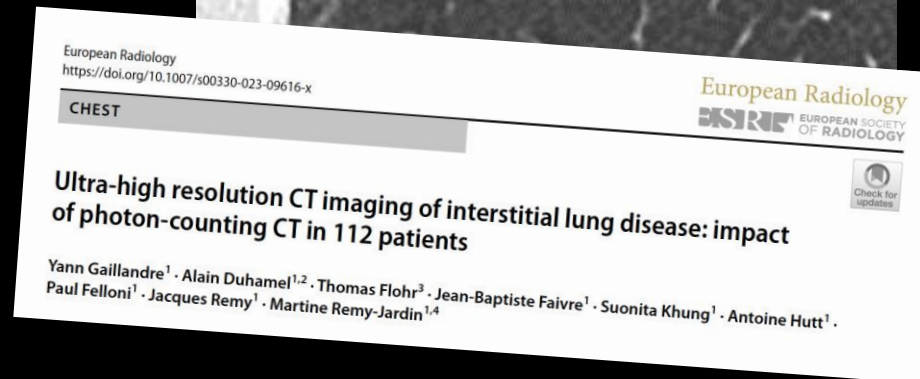
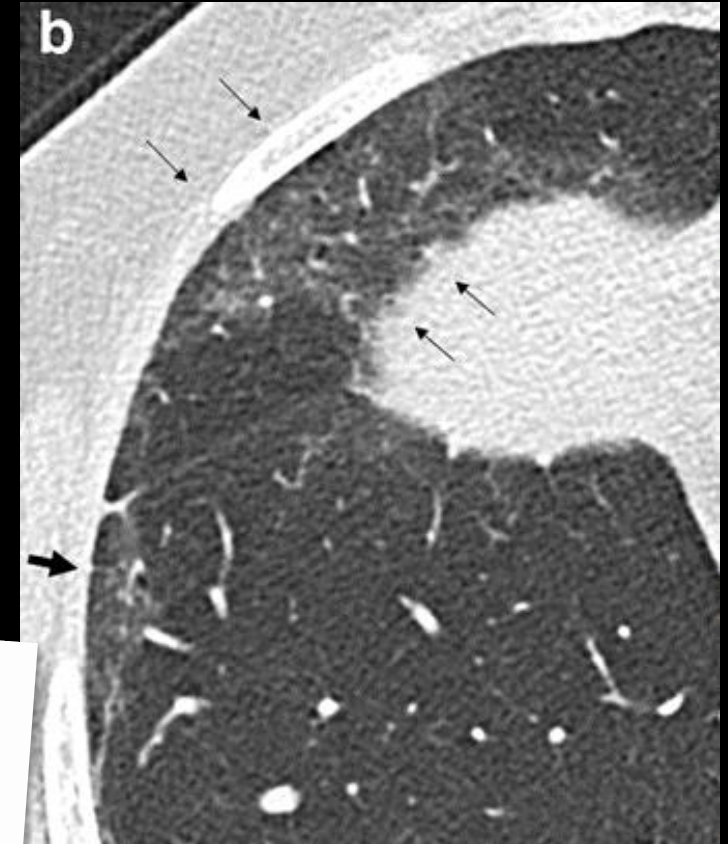
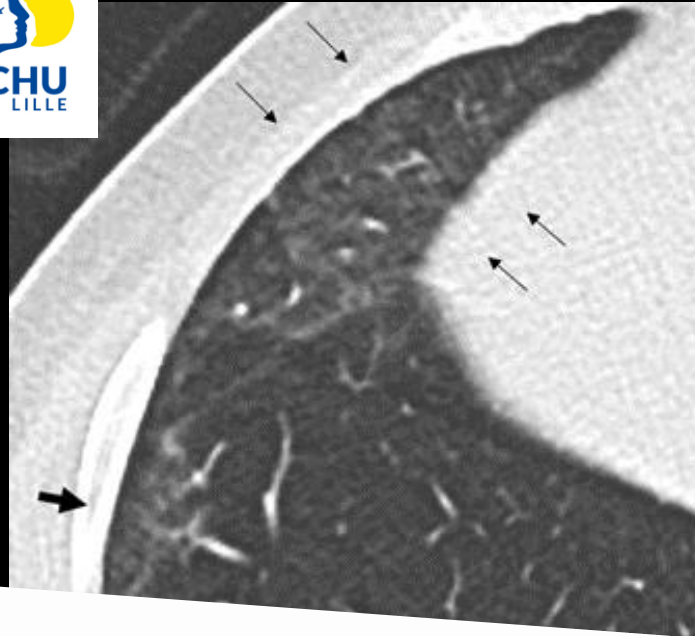
## Reclassification of patterns in interstitial lung disease (ILD)

► *Decisive patient outcome*



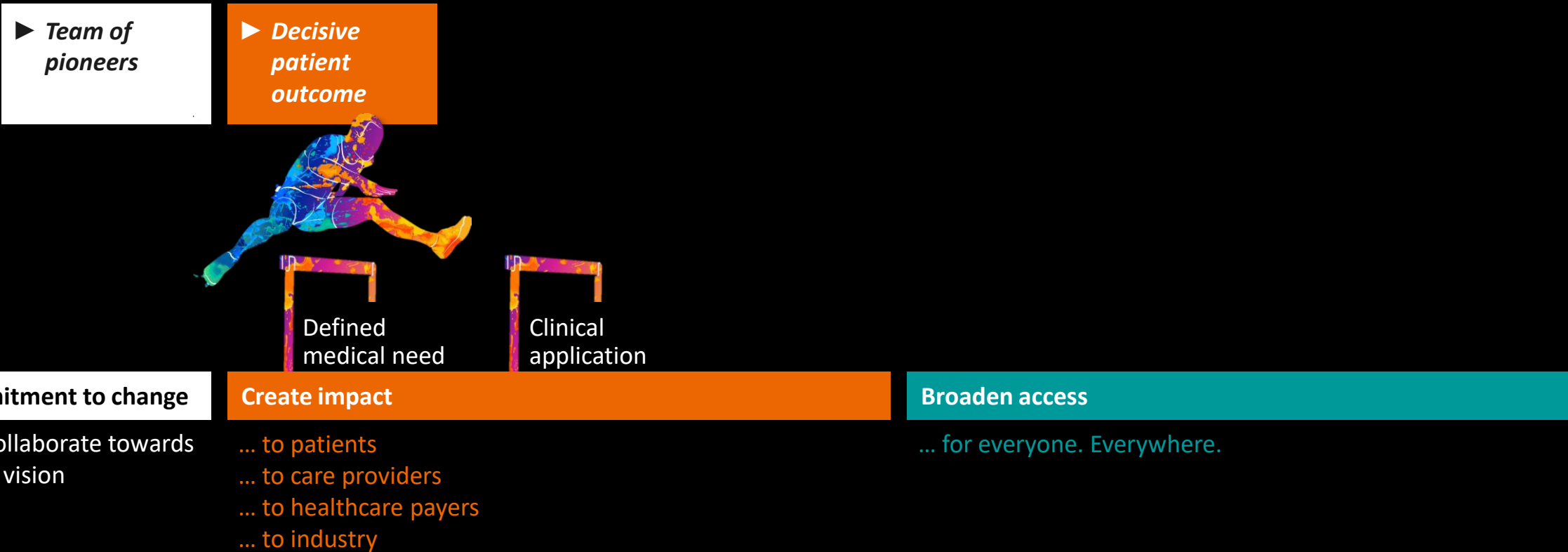
Defined medical need

Create impact



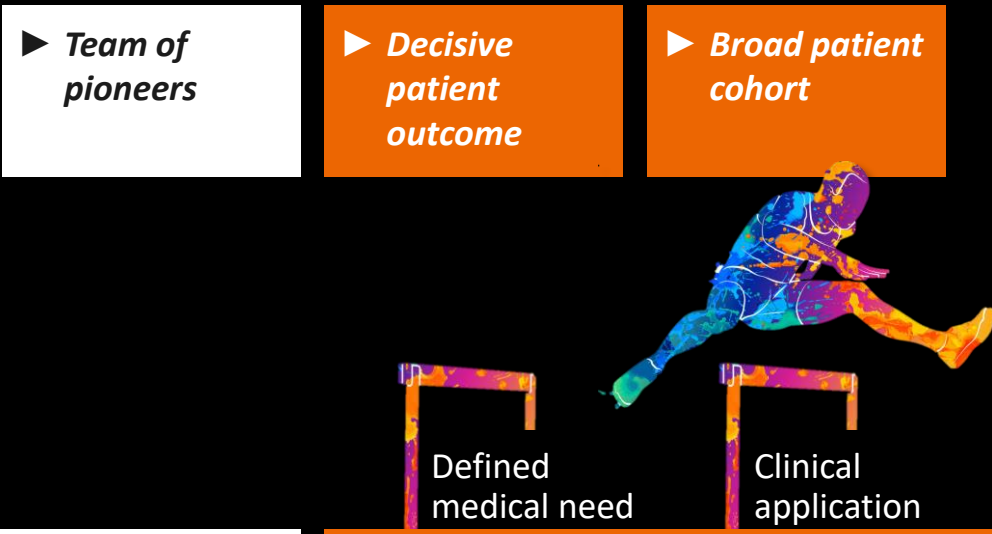
# Establishing the era of photon-counting CT

## Drivers for clinical impact and market adoption



# Establishing the era of photon-counting CT

## Drivers for clinical impact and market adoption



**Commitment to change**  
... to collaborate towards a joint vision

**Create impact**  
... to patients  
... to care providers  
... to healthcare payers  
... to industry

**Broaden access**  
... for everyone. Everywhere.

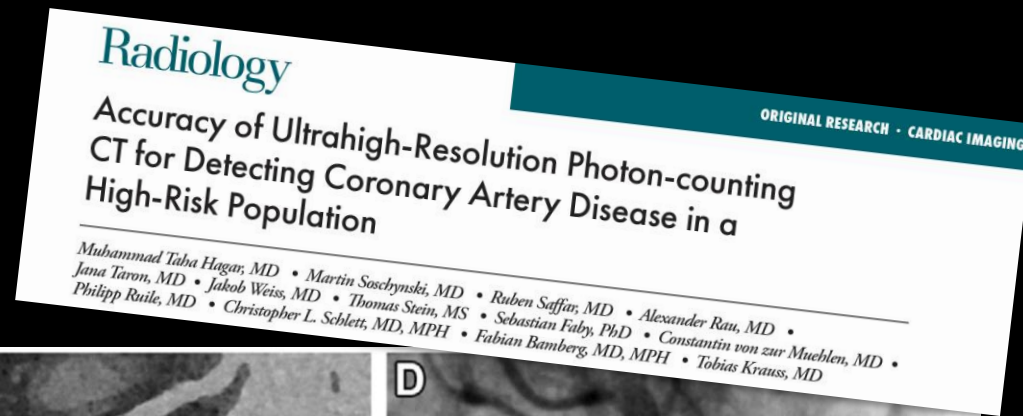
# Applicability and relevance of ultra-high resolution PCCT for detecting CAD in a high-risk population

► **Broad patient cohort**

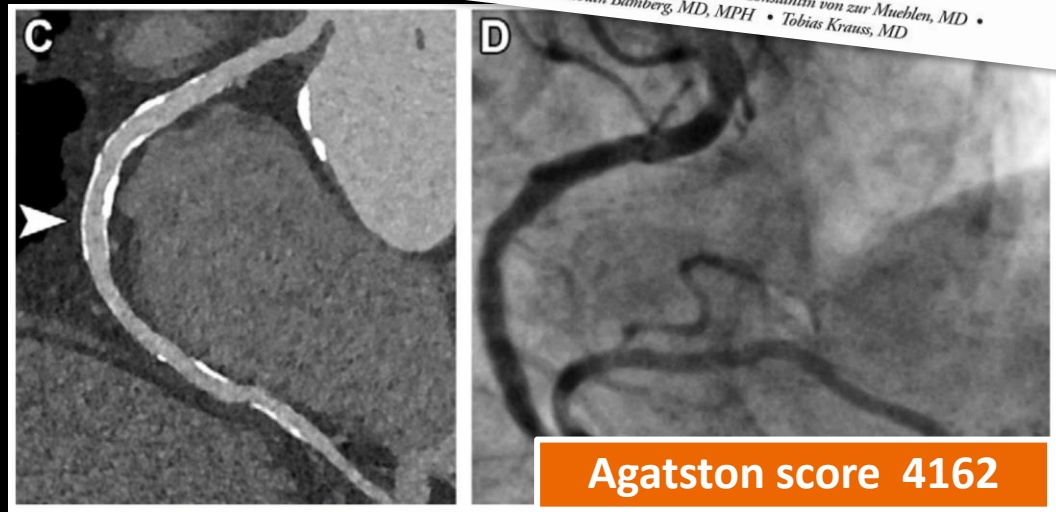


Clinical application

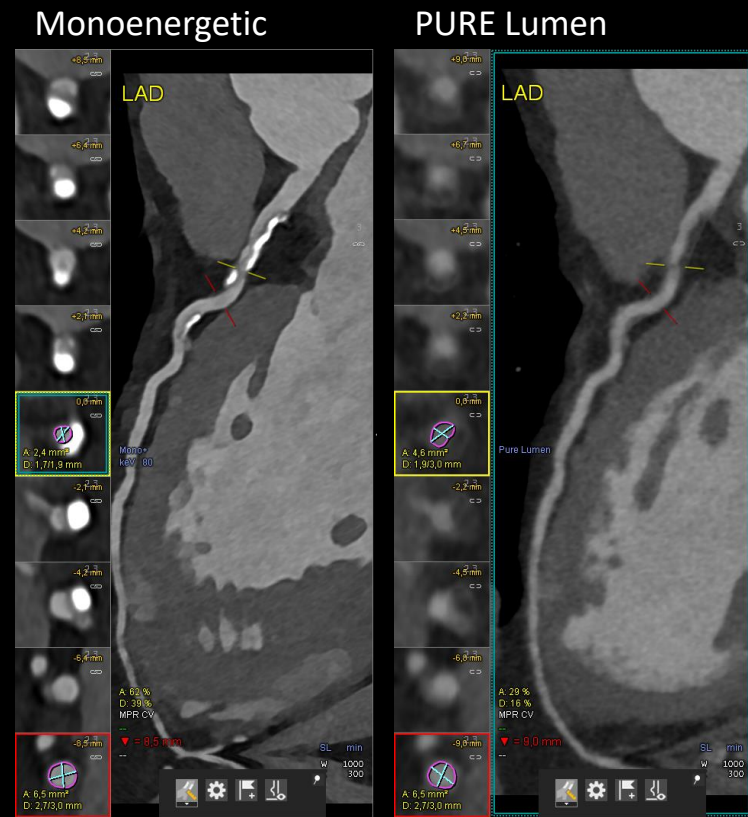
**Create impact**



Muhammad Taha Hagar, MD • Martin Soschynski, MD • Ruben Saffar, MD • Alexander Rau, MD • Jana Taron, MD • Jakob Weiss, MD • Thomas Stein, MS • Sebastian Faby, PhD • Constantin von zur Muehlen, MD • Philipp Ruile, MD • Christopher L. Schlett, MD, MPH • Fabian Bamberg, MD, MPH • Tobias Krauss, MD

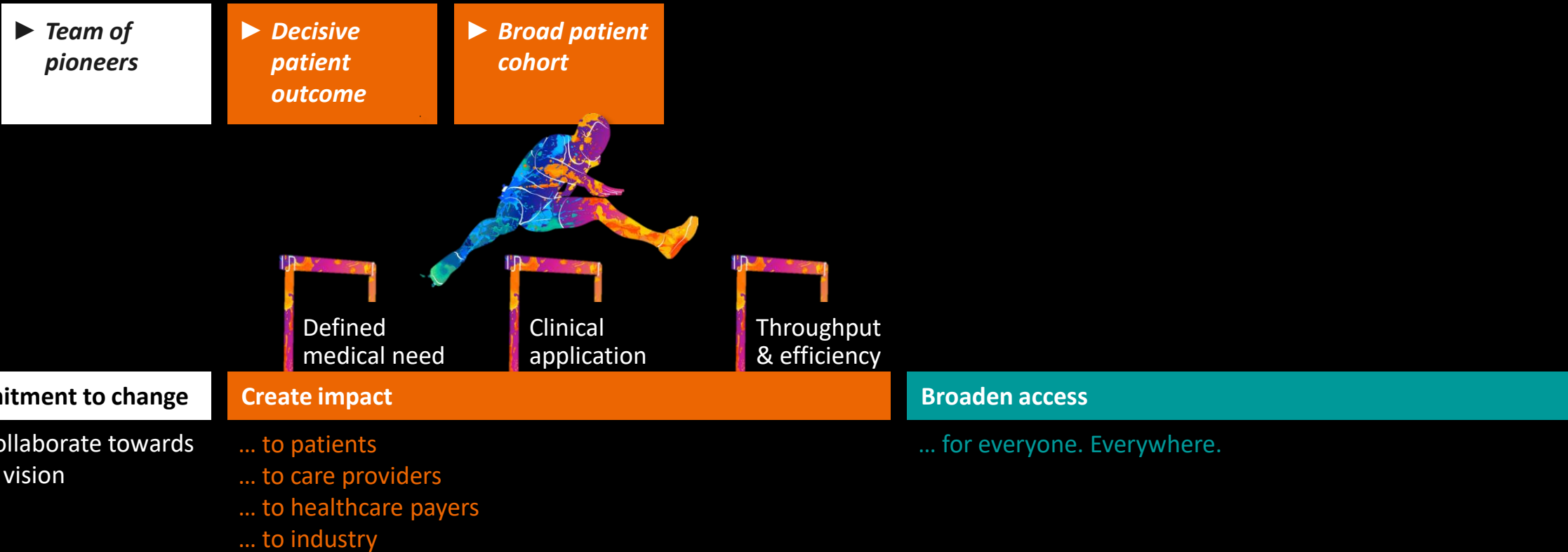


**Agatston score 4162**



# Establishing the era of photon-counting CT

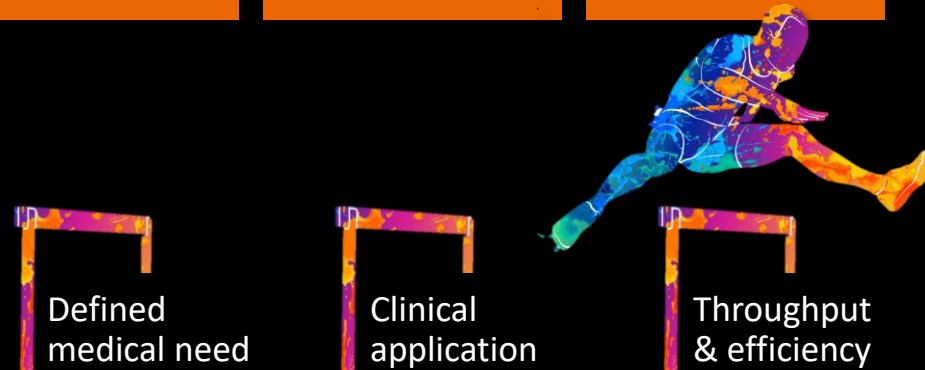
## Drivers for clinical impact and market adoption



# Establishing the era of photon-counting CT

## Drivers for clinical impact and market adoption

- ▶ *Team of pioneers*
- ▶ *Decisive patient outcome*
- ▶ *Broad patient cohort*
- ▶ *Ease of use & automation*



### Commitment to change

... to collaborate towards a joint vision

### Create impact

... to patients  
... to care providers  
... to healthcare payers  
... to industry

### Broaden access

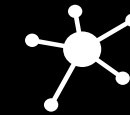
... for everyone. Everywhere.

# Workflow support for high throughput and efficiency

► *Ease of use  
& automation*



**Standardization and sharing of protocols**  
*myExam Companion, teamplay*



**100% connected**  
*Remote operations monitoring*



Throughput  
& efficiency

**Create impact**



**Intuitive workflow guidance**  
*myExam Companion*



**Enterprise imaging**  
*syngo Carbon*



**Automated post-processing and findings generation**  
*Rapid results technology, AI-Rad Companion*



**On-site & remote application training**



**Referrer communication**

## Moving towards conclusive exams to optimize patient pathway

► Ease of use  
& automation



Throughput  
& efficiency

Create impact

### Radiology

## Cardiac Imaging 2040

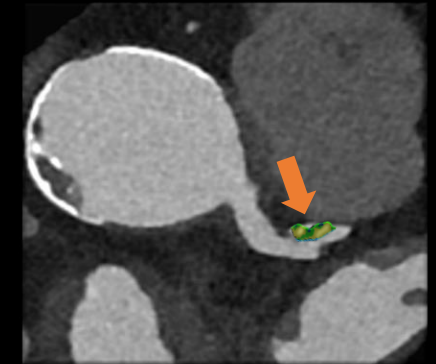
David A. Bluemke, MD, PhD • João A. C. Lima, MD

REVIEWS AND COMMENTARY • EDITOR

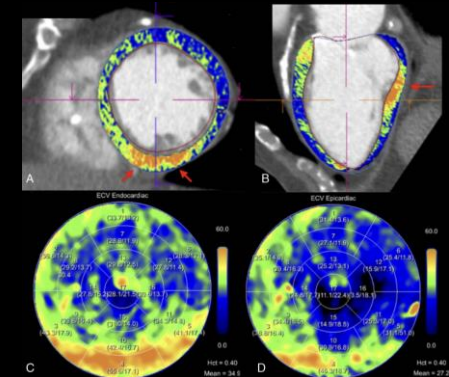
### Top 10 List of Cardiovascular Imaging Developments by 2040

1. Coronary CT angiography will be totally automated
2. Coronary CT angiography will routinely include estimates of coronary flow and pressure gradients
3. The main use of coronary CT will be in preventive cardiology (rather than as a gatekeeper to interventional cardiology)
4. Photon-counting CT will replace conventional CT for coronary artery evaluation (and everything else)
5. Photon-counting CT will enable routine plaque characterization and quantification
6. Next-generation cardiac CT will become more like MRI
7. Next-generation cardiac MRI will become more like CT
8. Multimodality imaging has untapped potential
9. Metabolic imaging of the heart will expand
10. Phase-contrast CT of the heart will be developed

### Coronary plaque analysis

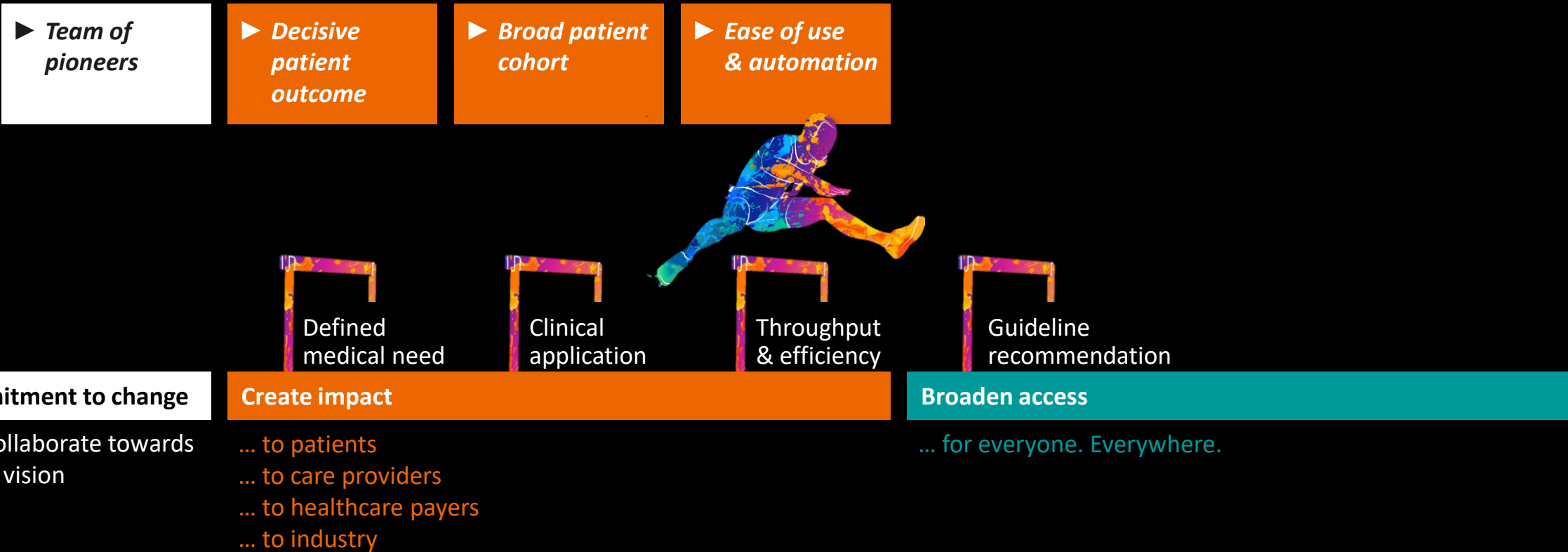


### Extracellular volume



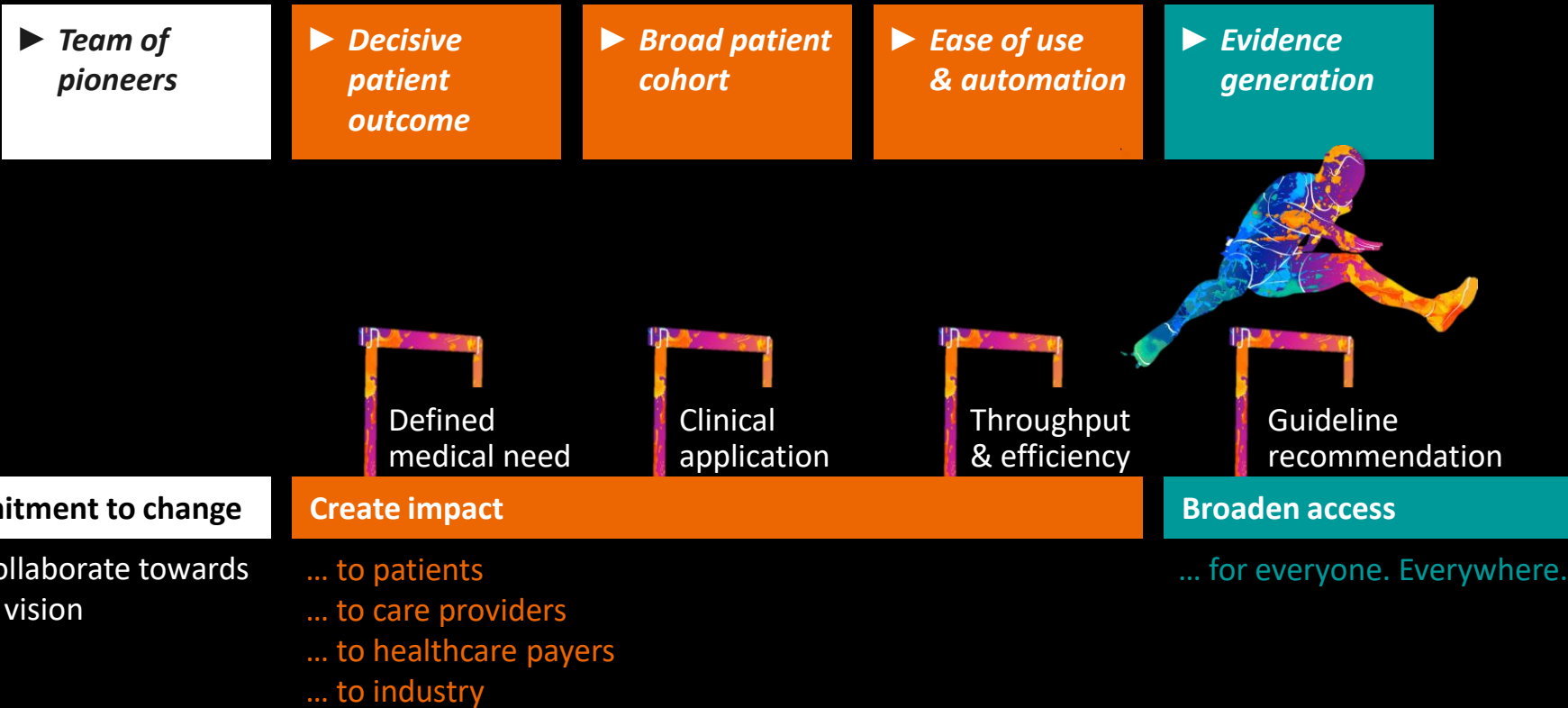
# Establishing the era of photon-counting CT

## Drivers for clinical impact and market adoption



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# Building on strong clinical research activity

## Prove new approach better for relevant clinical problems

>200 NAEOTOM Alpha papers dominate scientific discourse

▶ Evidence generation

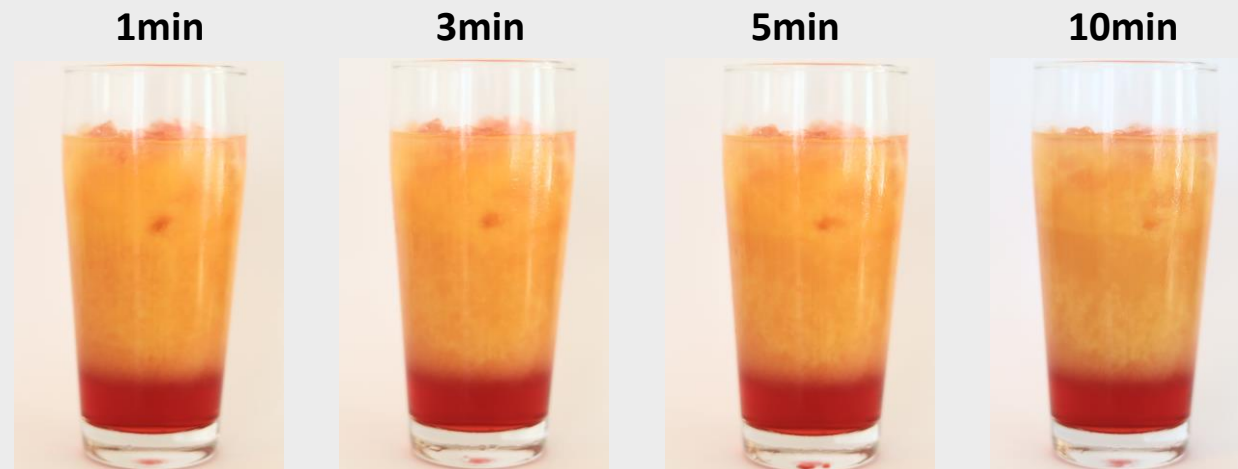
- ▶ Validate in large populations
- ▶ Design studies for high levels of evidence
- ▶ Compare effectiveness with existing approaches
- ▶ Prove value to society



Guideline recommendation

Broaden access

10min und **5s**



# Forming strong collaboration community

## Prove new approach better for relevant clinical problems

▶ Evidence generation



Guideline recommendation

Broaden access

### Neuro – insights for patient outcome

- ▶ Better diagnosis, characterization, treatment and follow-up of M2/M3 occlusions

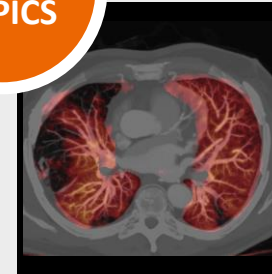


### Cardiovascular – expand patient reach

- ▶ Avoid diagnostic caths in patients with symptoms after PTCA
- ▶ Rule-out of significant stenosis – avoid diagnostic caths in ALL patients

### Oncology – deliver consistent results

- ▶ Early diagnosis, precise follow-up and better treatment decisions by imaging standardization, quantification & higher level of information



### Lung – provide meaningful answers

- ▶ Right classification of ILD patterns with significant radiation dose reduction
- ▶ Anatomy and function in any contrast-enhanced pulmonary embolism scan

FOCUS TOPICS

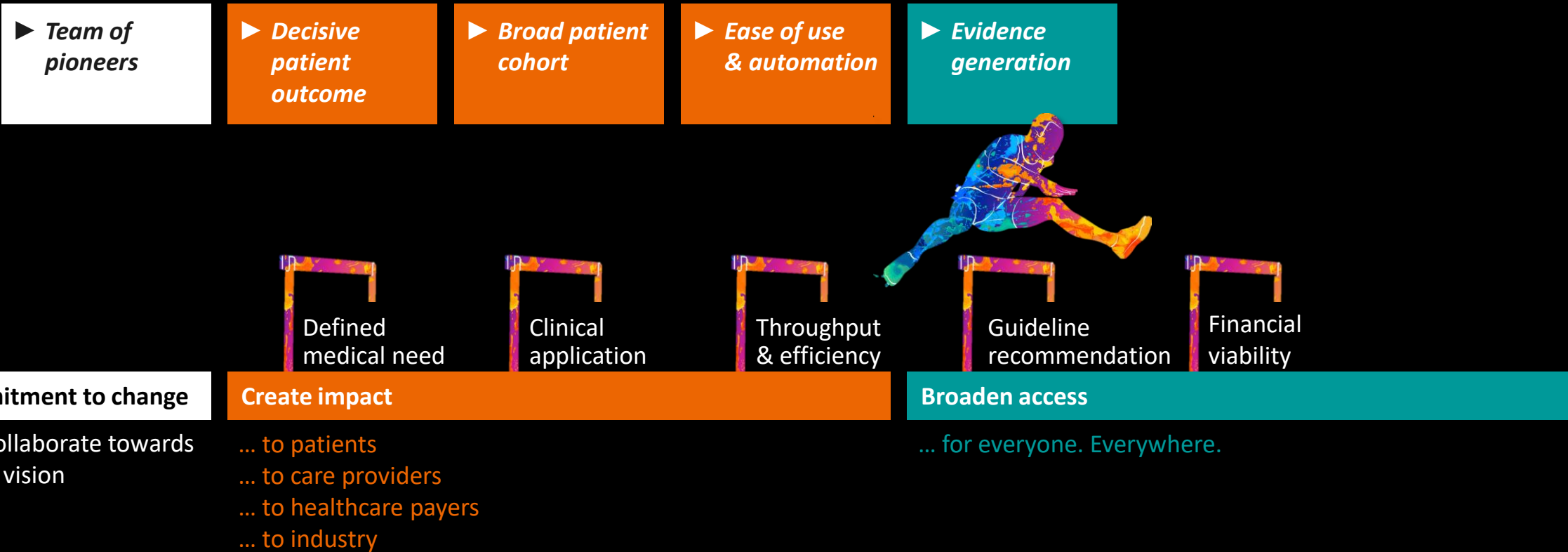
Ultra high resolution & spectral separation

Ultra-low dose (radiation & contrast)

Patient access

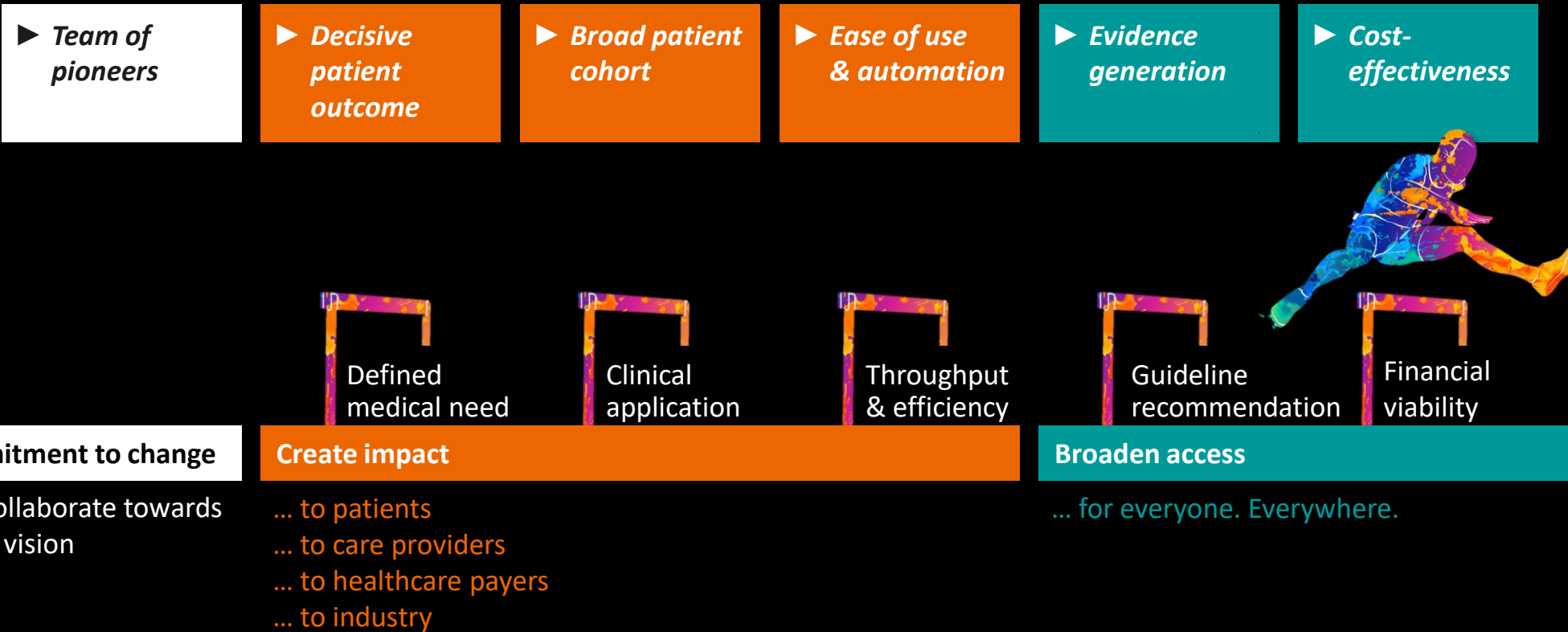
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## Drivers for clinical impact and market adoption



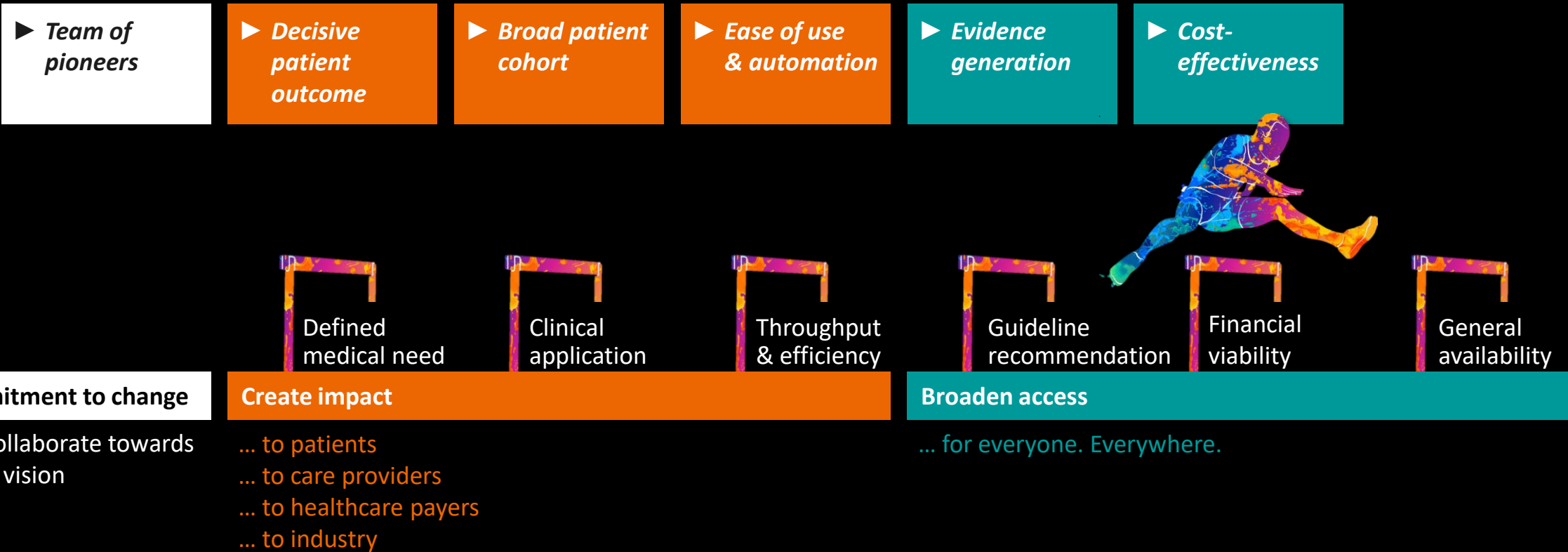
# Establishing the era of photon-counting CT

## Drivers for clinical impact and market adoption



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## Drivers for clinical impact and market adoption



**Commitment to change**

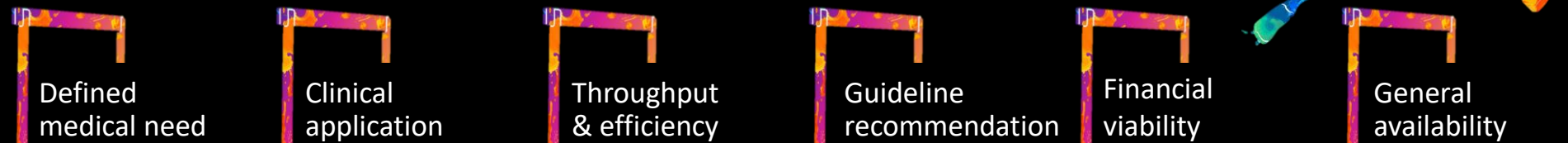
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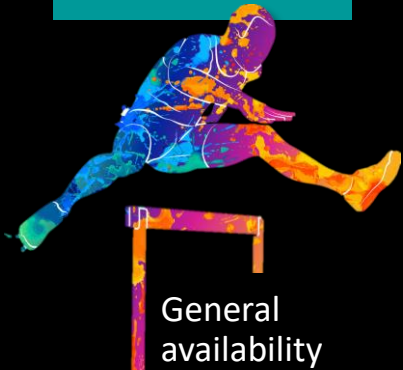
... for everyone. Everywhere.



# Regulatory approval

## Key factor to provider and patient access

▶ *Regulatory approval & capacities*



General availability

Broaden access

FDA ✓

CE ✓

NAEOTOM Alpha



# Capacity expansion

## Key factor to serve global demand

▶ *Regulatory approval & capacities*



General availability

Broaden access



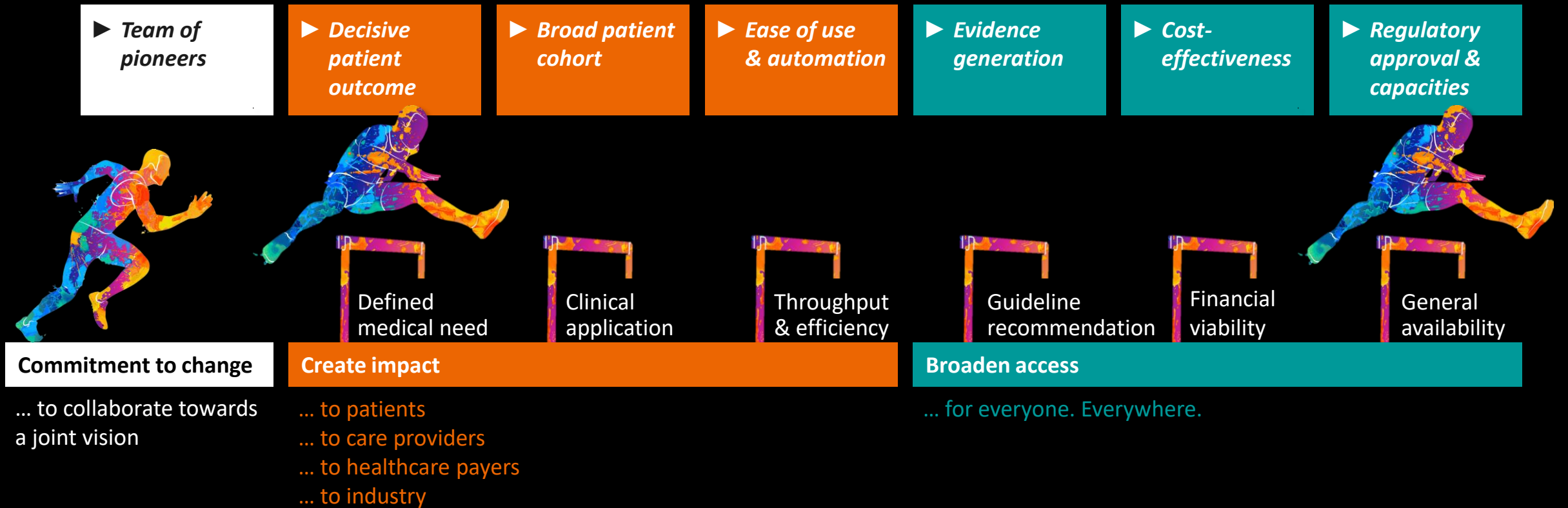
2026 Forchheim, Germany  
New semiconductor factory  
>100 additional experts

NAEOTOM Alpha



# Establishing the era of photon-counting CT

## Drivers for clinical impact and market adoption



**Commitment to change**

*Get ready for the race!*

**Create impact**

*Focus and expand momentum!*

**Broaden access**

*Endurance for the long run!*



**Thank you**