VISIOPHARM®

AI-Powered Digital Pathology

Marc Verkooijen,
Clinical Account Executive, Central Europe

Visiopharm is a world-leader in AI-driven precision pathology software

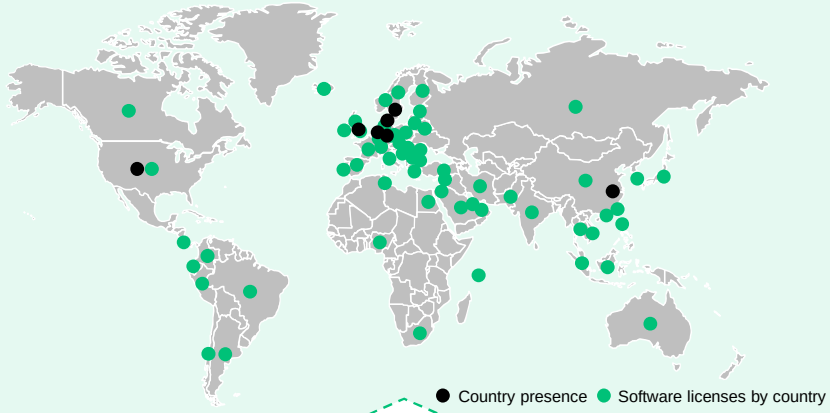
Visiopharm at a glance

- Visiopharm is an established market leader worldwide, supporting scientists and pathologists across biopharma, academia, and diagnostic pathology labs in more than 40 countries
- Visiopharm is delivering industry-leading, AI-driven precision pathology solutions across the research-diagnostic continuum based on a scalable technology platform, which is infinitely configurable for scientists and locked and regulated for diagnostic pathologists - enabling translation between research and diagnostics through deep regulatory expertise

Key highlights

+100 *Employees*	**+20** *Years of operations*	**7** *Countries present in globally*
19/20 *Top big pharma companies served*	**15m** *2020/21A revenue (EUR)*	**+100%** *2020/21A-2025/26F ARR bookings CAGR*

Strong geographical reach and customer traction



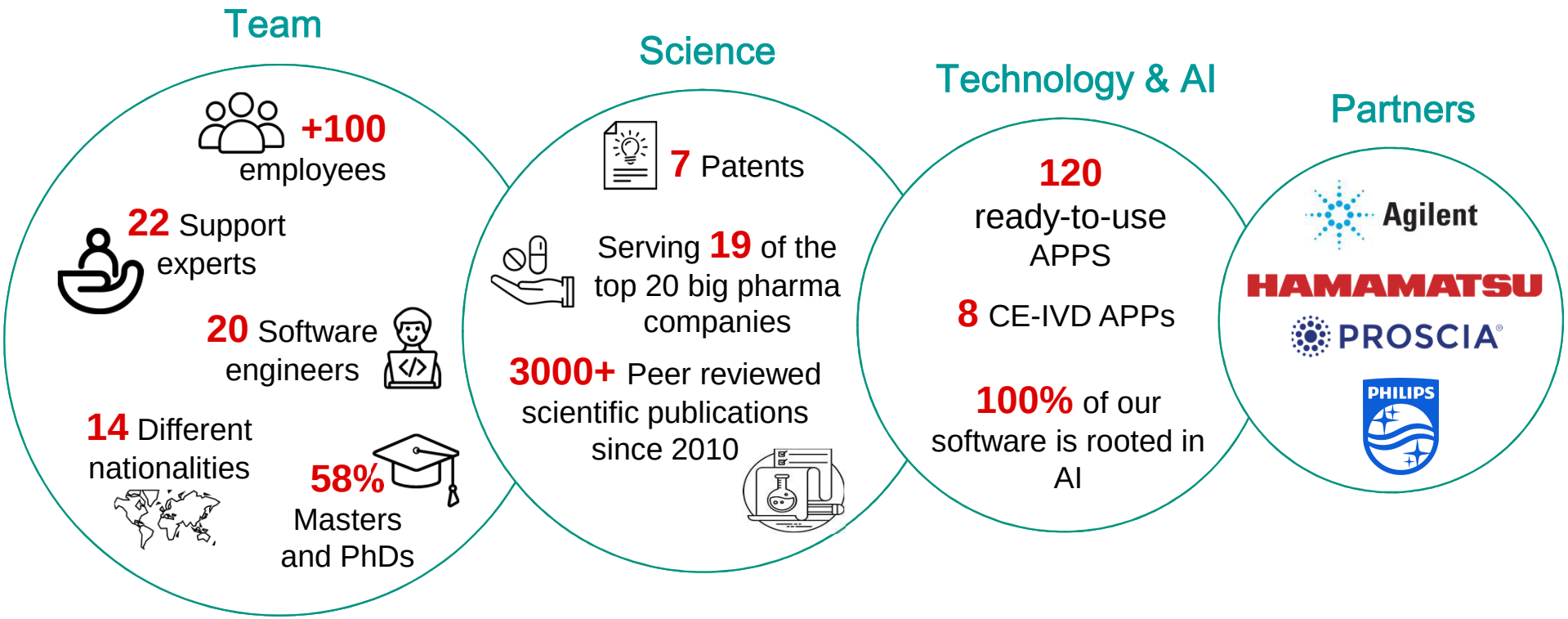
Global presence[2]

- Hørsholm, HQ (DK)
- Lund (SE)
- Amsterdam (NL)
- Münich (DE)
- London (UK)
- Denver (US)
- China[3]

~900 software licenses sold worldwide in more than 40 countries

Highly diversified customer base with ~25% of software revenue generated by top 10 customers in 2020/21A

Empowered by People, Science, AI and Partners



Disclaimer

Alle producten in deze presentatie die gemarkeerd zijn als CE-IVD zijn alleen voor gebruik binnen de Europese Unie. In alle andere regios, zijn de producten alleen voor Research inzetbaar.

AI-powered pathology solutions for today, empowering pathologists for tomorrow

Data & Tissue Quality

Quality first mindset throughout the entire tissue diagnostics ecosystem

Productive Workflows

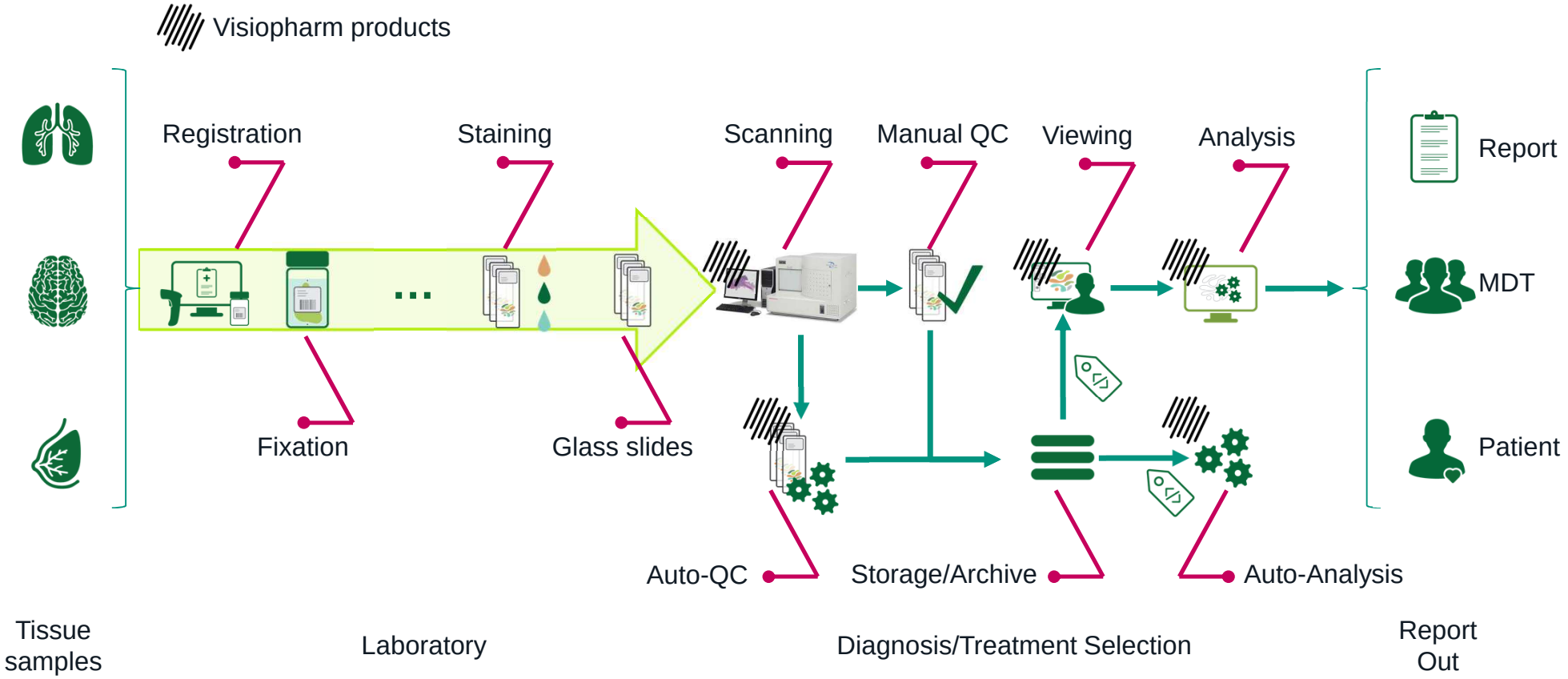
We put the puzzle together; enabling automation rather than human time throughout the digital pathology workflow

Open & Configurable

Vendor agnostic, 50+ formats, powerful analysis solutions that are highly flexible & configurable

Secure, Scalable

Our solutions deploy and scale across local, distributed or cloud-enabled environments; empowering labs of all sizes to have access to digital pathology solutions


Visiopharm products
Registration
Staining
Scanning
Manual QC
Viewing
Analysis
Report
MDT
Patient
Fixation
Glass slides
Auto-QC
Storage/Archive
Auto-Analysis
Tissue samples
Laboratory
Diagnosis/Treatment Selection
Report Out

Example Setup

Case viewing screen

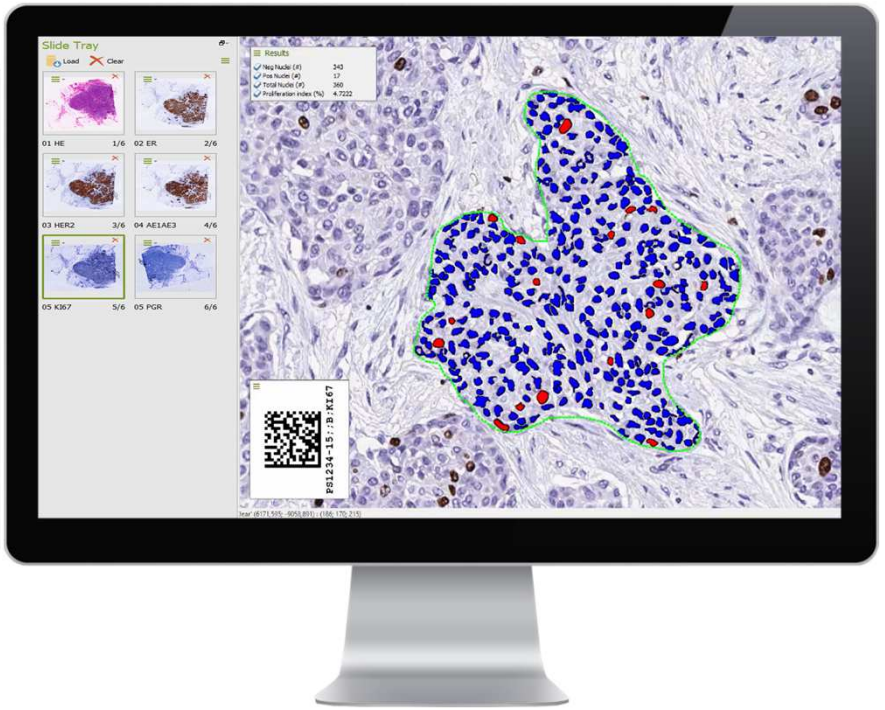
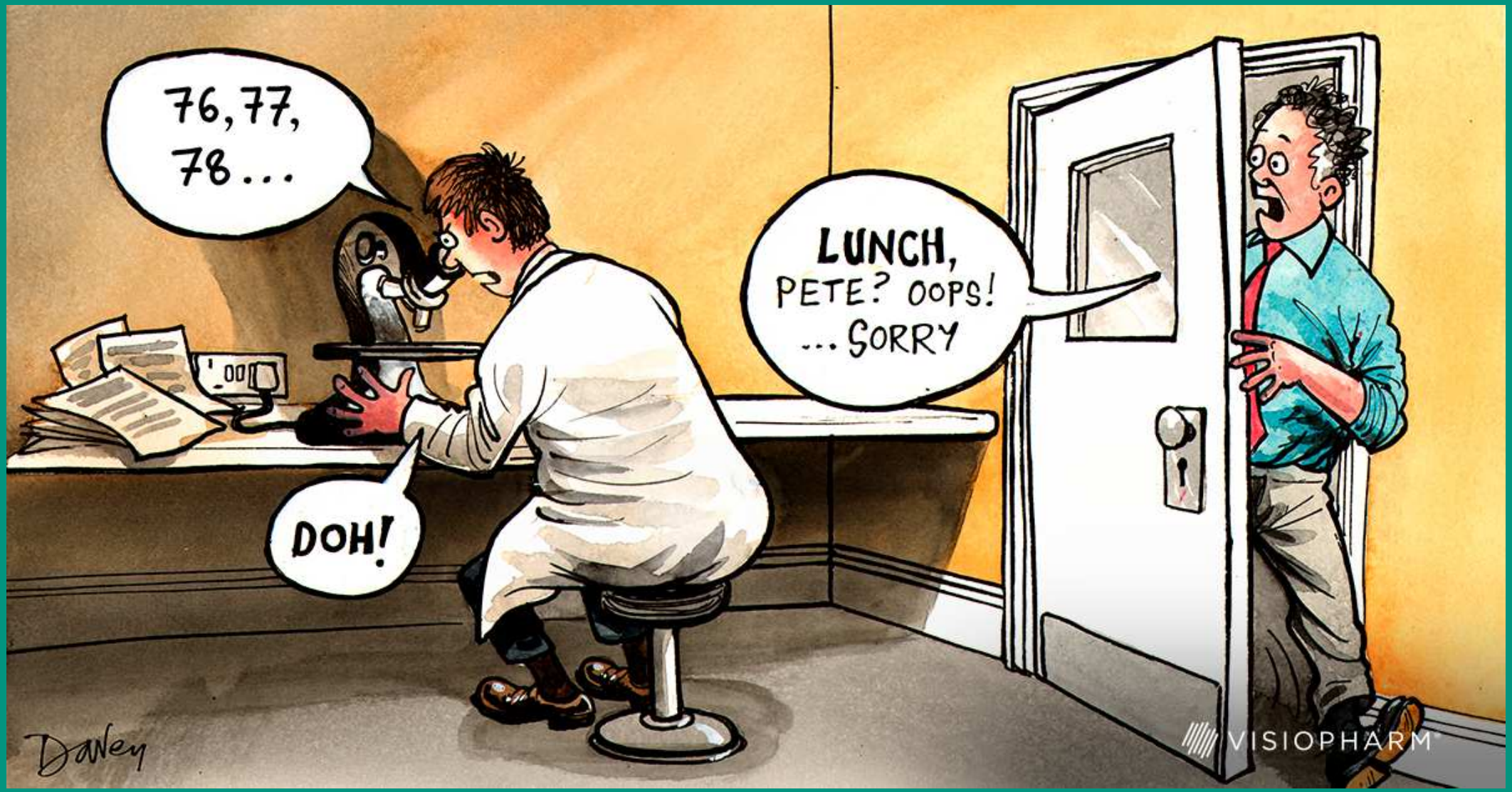
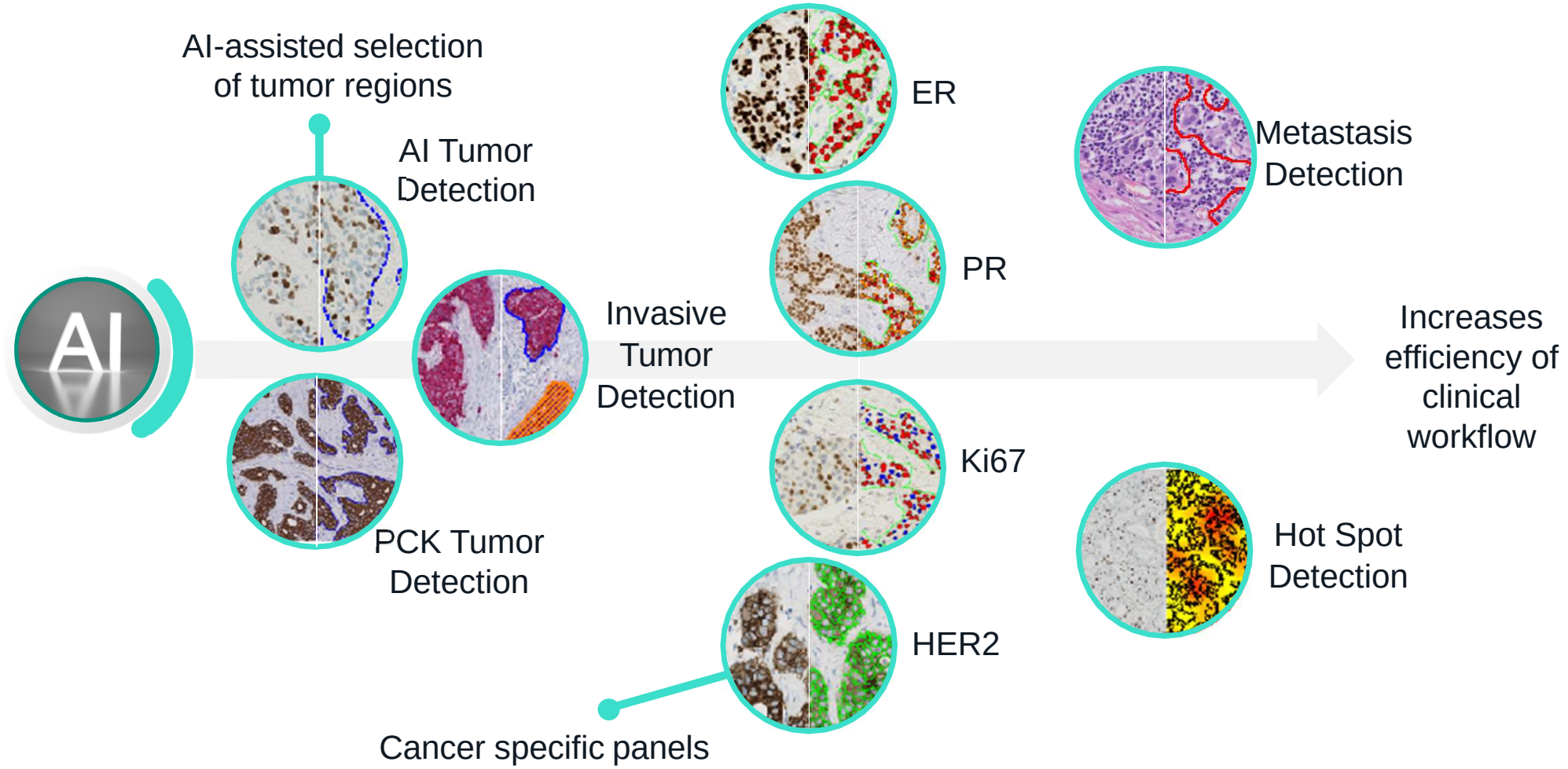


Image (analysis) screen

Diagnostische APPs


76, 77, 78...
DOH!
LUNCH, PETE? OOPS! ...SORRY
Davey
VISIOPHARM

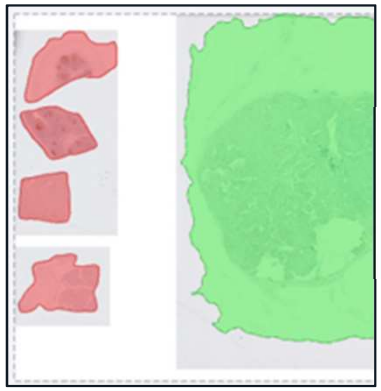
AI Image Analysis for Diagnostics



*In EU: CE-IVD, in US and others: For research use only, not for use in diagnostics procedures

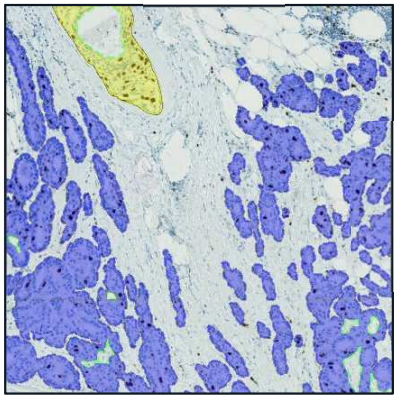
Ki67 Breast automated image analysis

CONTROL TISSUE DETECTION



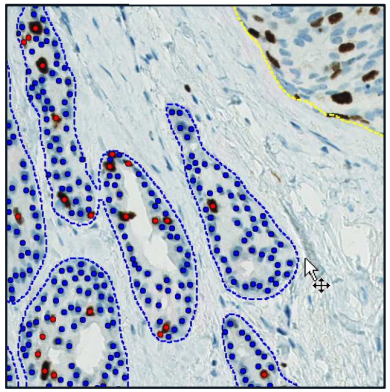
- Automatically identify tissue

IDENTIFY INVASIVE TUMOR



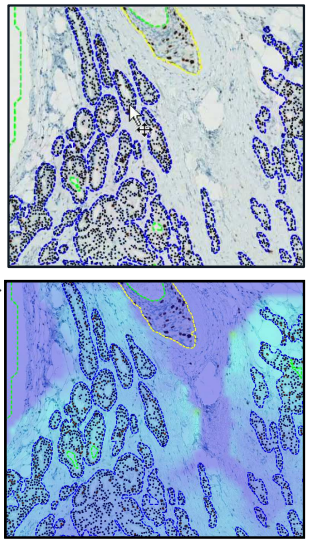
- Detect invasive vs. non-invasive tumor

Ki67 NUCLEAR QUANTIFICATION



- Analyze cells in invasive areas

REVIEW RESULTS



Name	Value
Negative Nuclei	449,148
Positive Nuclei	73,837
Proliferation Index	14.12%
Total Nuclei	522,985
Hot Spot Proliferation Index	87.36%

- Intuitive visuals
- Reproducible results

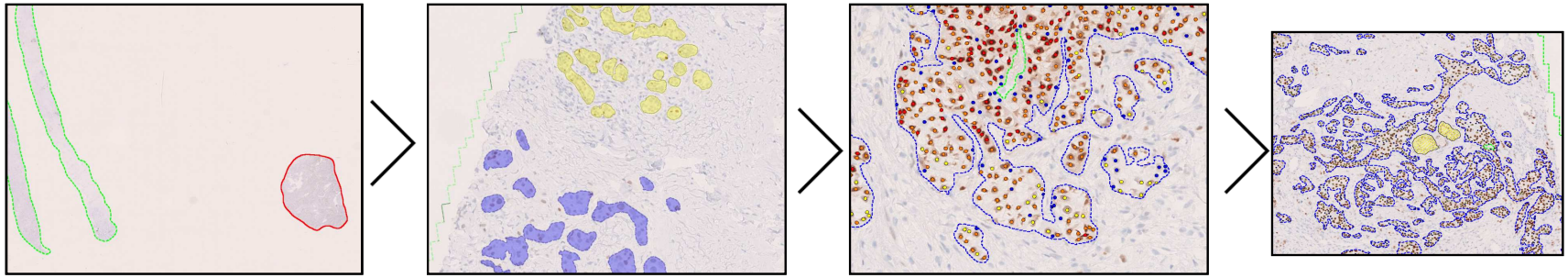
ER/PR Breast automated image analysis

CONTROL TISSUE DETECTION

IDENTIFY INVASIVE TUMOR

ER/PR NUCLEAR QUANTIFICATION

REVIEW RESULTS



Name	Value
Negative Nuclei	5,370
Positive Nuclei	14,224
Total Nuclei	19,594
Positive Precentage	72.59%
H-score [0-300]*	135.37
Allred Score [0-8]	7

- Automatically identify tissue
- Detect invasive vs. non-invasive tumor
- Analyze cells in invasive areas
- Intuitive visuals
- Reproducible results

* Allred & Immunoreactive Score (IRS) can also be reported

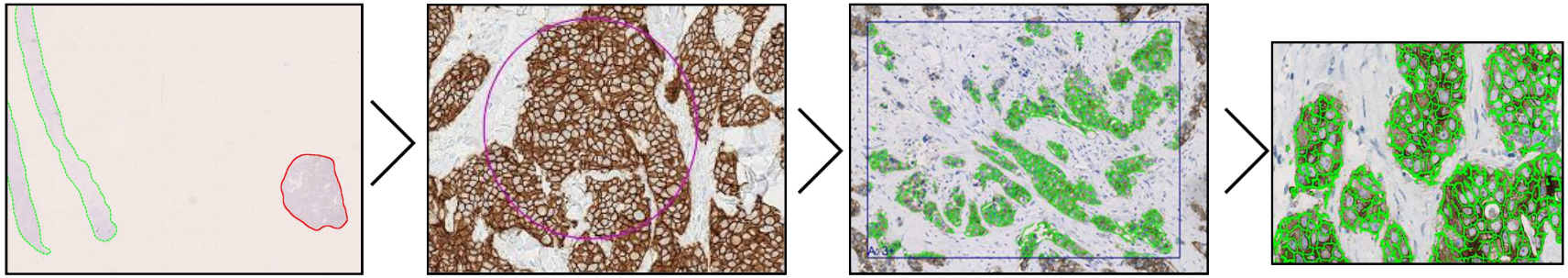
HER Breast automated image analysis

CONTROL TISSUE DETECTION

IDENTIFY TUMOR

HER2 MEMBRANE QUANTIFICATION

REVIEW RESULTS



Name	Value
Connectivity	0,780
HER2 Score	3

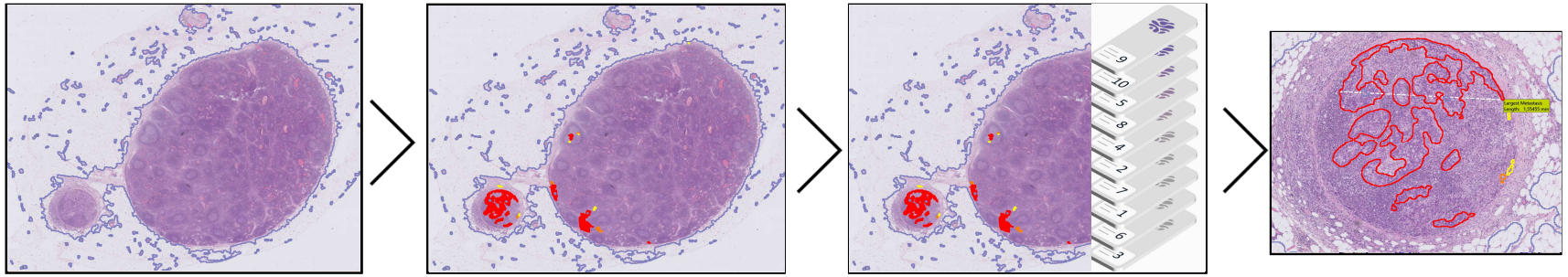
- Optionally automatic tissue detection
- Detect tumor Or manually outline
- Analyze membrane in tumor area
- Intuitive visuals
- Reproducible results

Metastasis Detection automated image analysis

CONTROL TISSUE DETECTION

IDENTIFY METASTASIS DETECTION

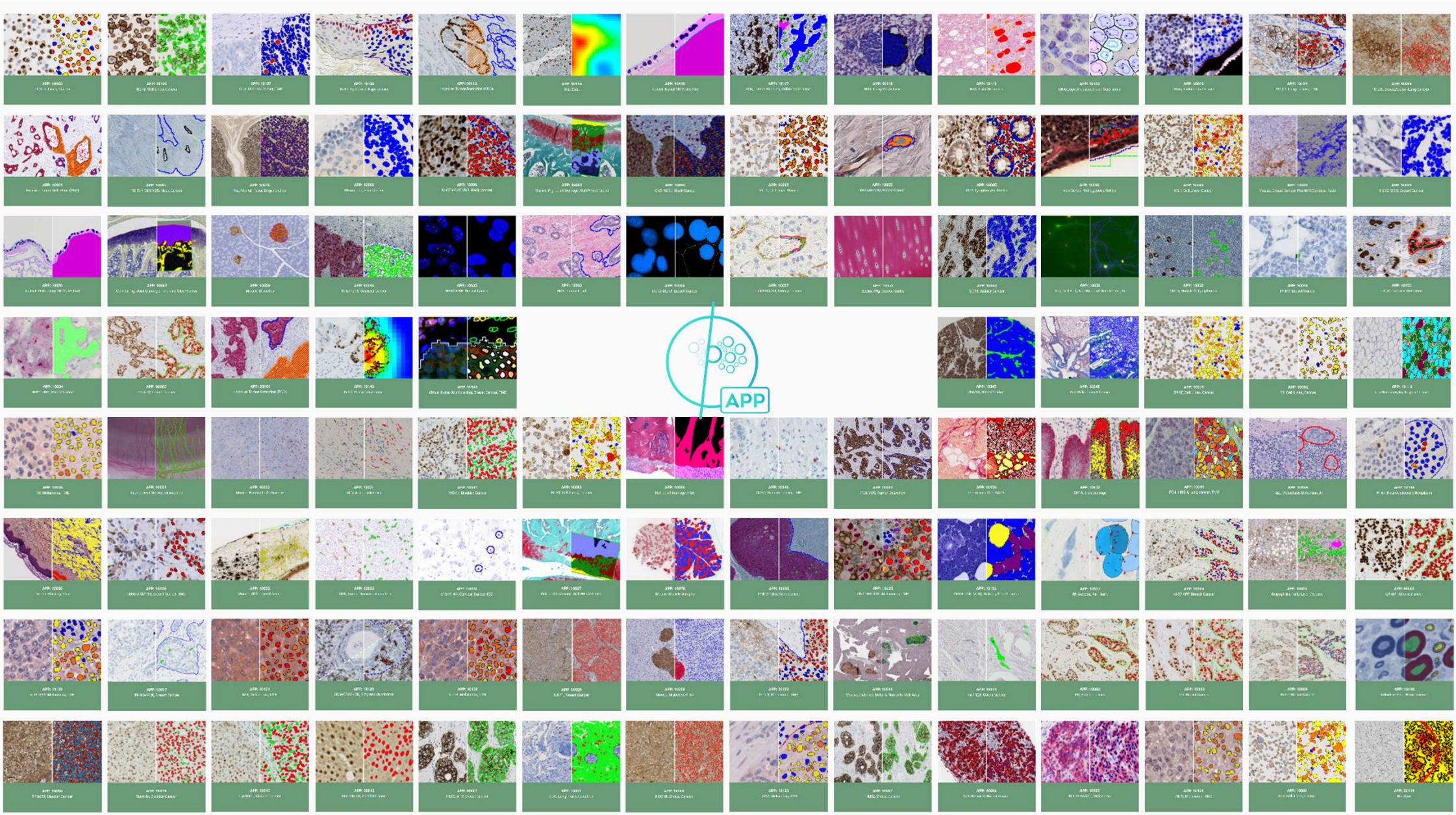
SORTING HIGHEST PROBABILITY OF METASTASIS



REVIEW RESULTS

Name	Value
Largest Metastasis Diameter	1,55 mm
Largest Metastasis Diameter	1.08 mm

- Automatically identify tissue
- Detect Metastasis
- Analyze metastasis area
- Intuitive visuals
- Reproducible results


APP

Een paar voorbeelden

- Region South Denmark (DK)
- Scanner: Oncotopix Scan (Hamamatsu)
- LIS: CGI
- IMS/PACS: Sectra

- UZ Leuven (BE)
- Scanner: Philips UFS
- LIS: Own Development
- IMS/PACS: Philips Intellisite

- Vestre Göteland, VGR (SE)
- Scanner: Oncotopix Scan (Hamamatsu)
- LIS: Tieto (Sympathy)
- IMS/PACS: Hyland VNA

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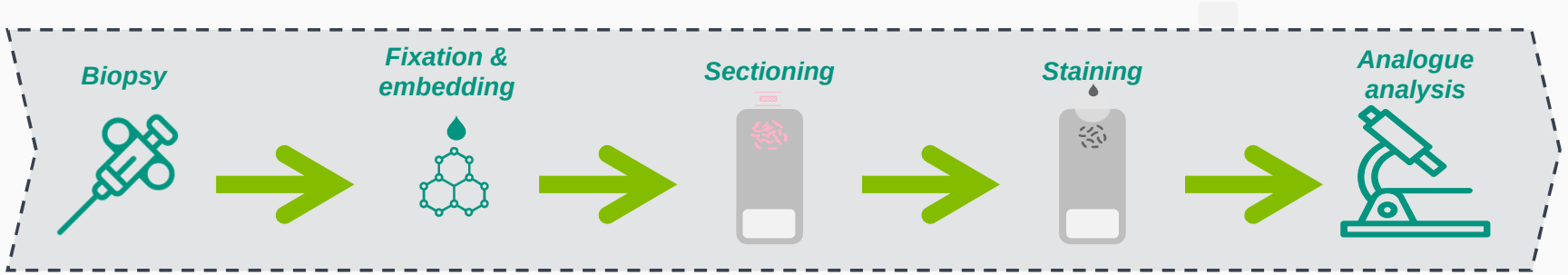
QUALITOPIX™

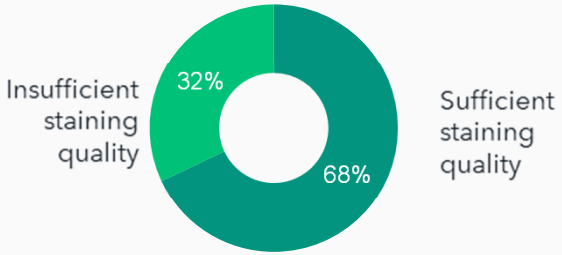
AI-driven stain consistency standardization of IHC

Stain quality remains a challenges throughout the pathology workflow



Results of stain quality challenges in conventional workflows

+30% labs failing stain proficiency[1]



~19,000 general module
~85 biomarkers
Year 2003-2013

Lack of sufficient standardization of IHC results in significant increases in healthcare cost[2]

1: Vyberg, M. & Nielsen, S. Proficiency testing in immunohistochemistry—experiences from Nordic Immunohistochemical Quality Control (NordiQC) 2016.
2: Vyberg M, Nielsen S, Røge R, Sheppard B, Ranger-Moore J, Walk E, Gartemann J, Rohr UP, Teichgräber V. Immunohistochemical expression of HER2 in breast cancer: socioeconomic impact of inaccurate tests. 2015.

External quality assessment is essential in pathology

Quality drift and fluctuations between runs are not detected

Reference: Data on file from UK-NEQAS.

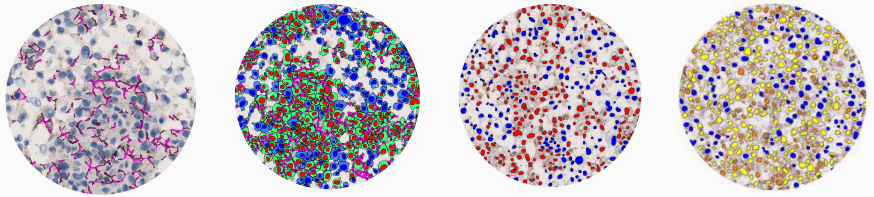
Qualitopix is een doelgerichte oplossing die uw kleurings consistentie kan meten, bewaken en documenteren d.m.v. AI-gestuurde standaardisatie van uw weefsel biomarkers

Objective and robust testing of your stain consistency

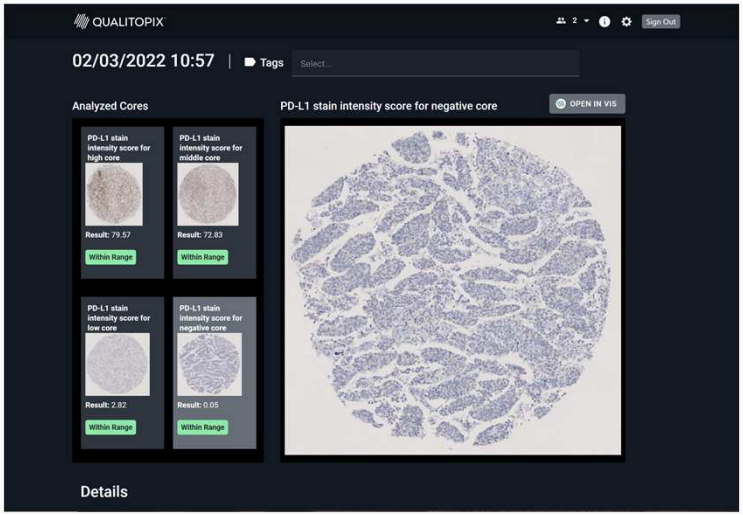
Objectively and reproducibly measure your stain consistency by using advanced AI deep learning technology and reference material.

Qualitopix has been tested for more than a year across many diagnostic pathology lab with major staining instruments and important clinical assays.

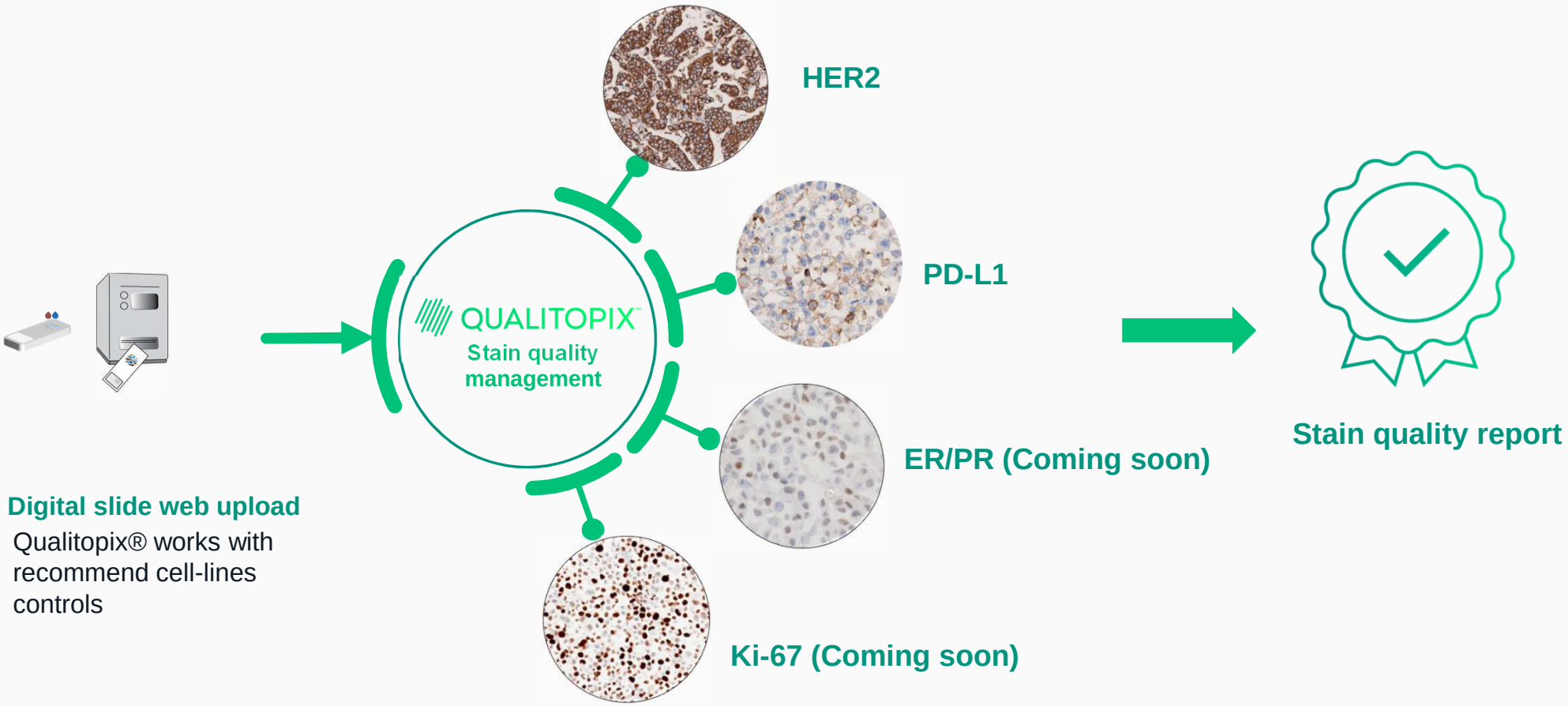
Qualitopix
AI deep learning workflow



Membrane detection | Classification using membranes | Output calculation



Cloud-based stain quality management solution that combines powerful AI technology with reference material

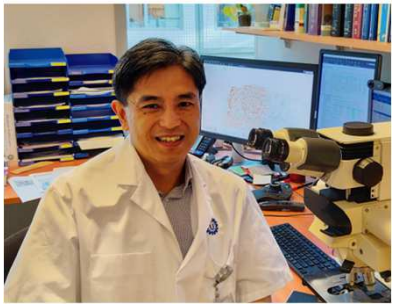


Digital slide web upload

Qualitopix® works with recommend cell-lines controls

End-user feedback has been an essential part of the Qualitopix development

> Thanks to Qualitopix, we can check to quality of these important stainings continuously and can be fully confident that our assessments are correct”
>
> *Tri Q. Nguyen, MD PhD, Pathologist at UMC Utrecht, The Netherlands*



> Thanks to the feedback we got, we were able to stabilize important markers like HER2 and PD-L1, and could solve some issues with our stainers”
>
> *Sven van Kempen, Histotech at UMC Utrecht, The Netherlands*

> The upload is easy and the graphic visualization of staining variation in our lab has aided us in identifying problem areas.”
>
> *Kristina Lystlund Lauridsen, Research Bioanalyst and Project Coordinator at Aarhus University Hospital, Denmark*

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Thank you