

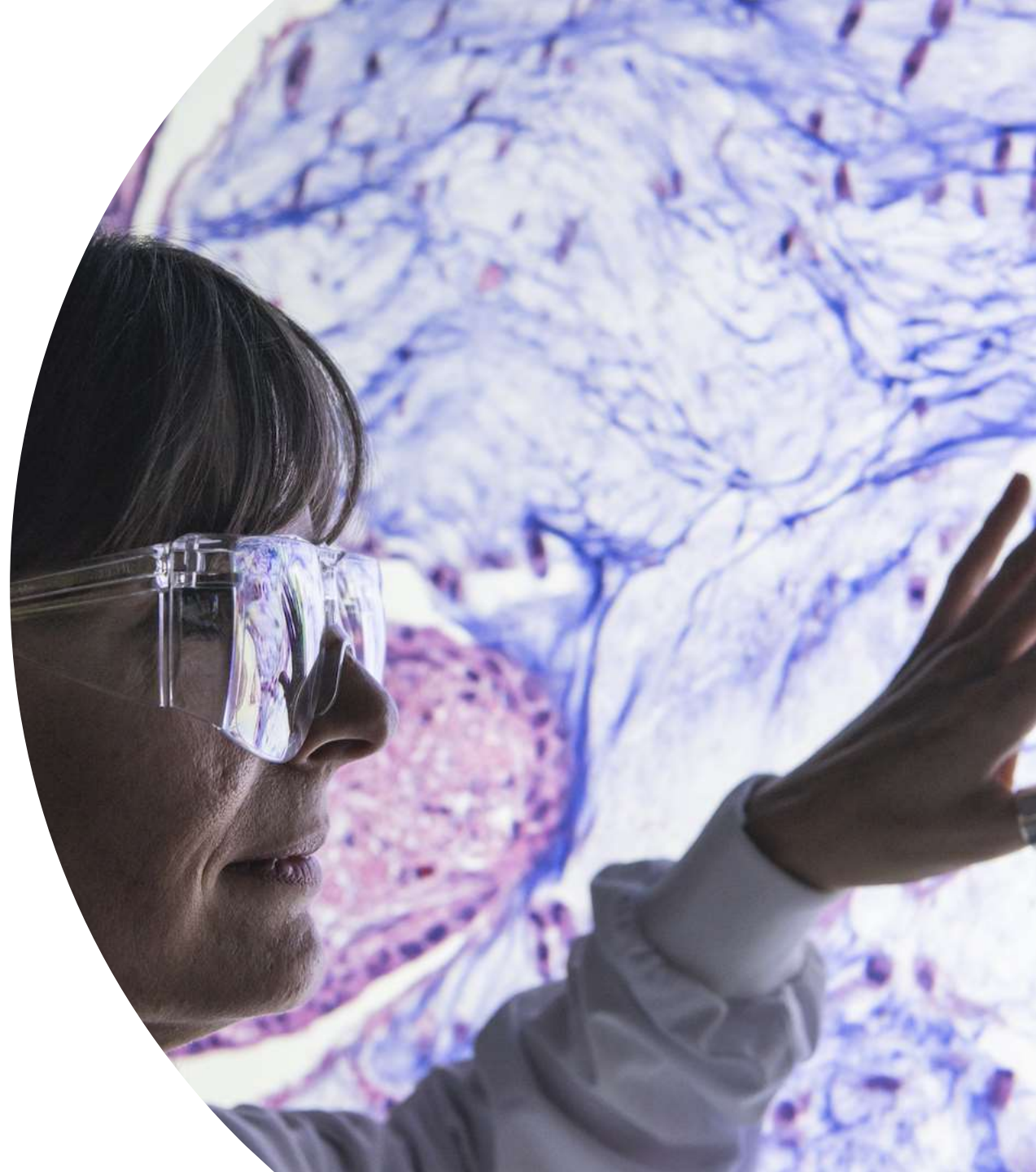


Establishing an Imaging Platform for Digital Pathology innovation: Challenges and Opportunities

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Associate Director
Imaging & Data Analytics

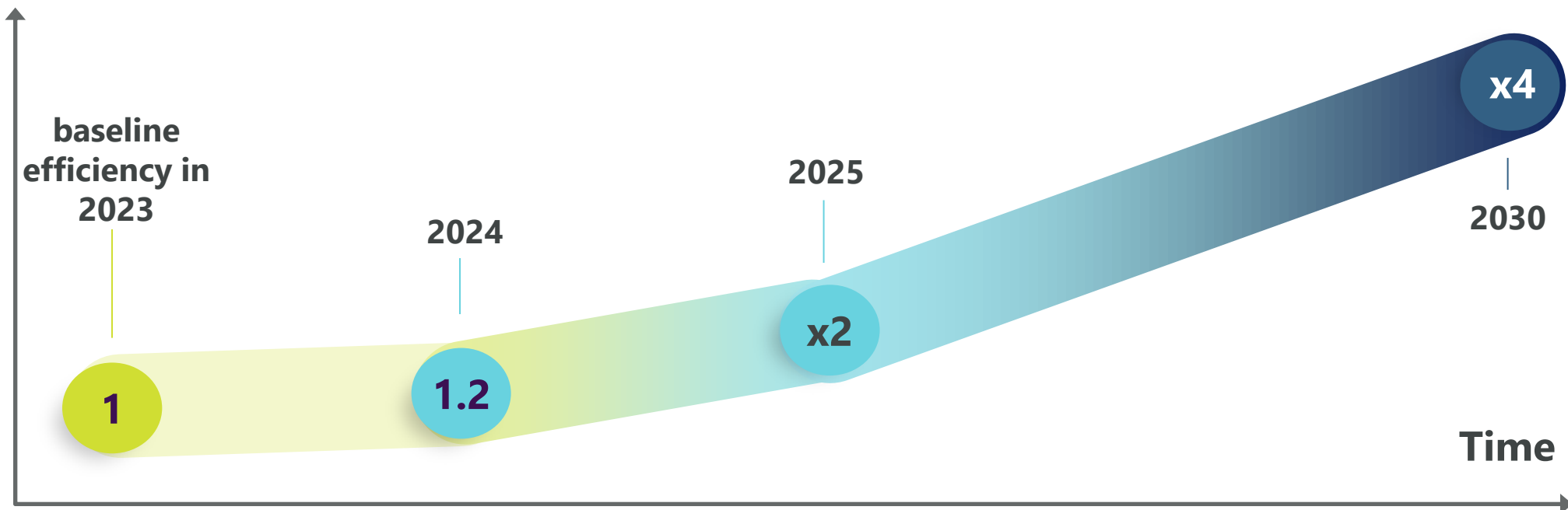
8th December



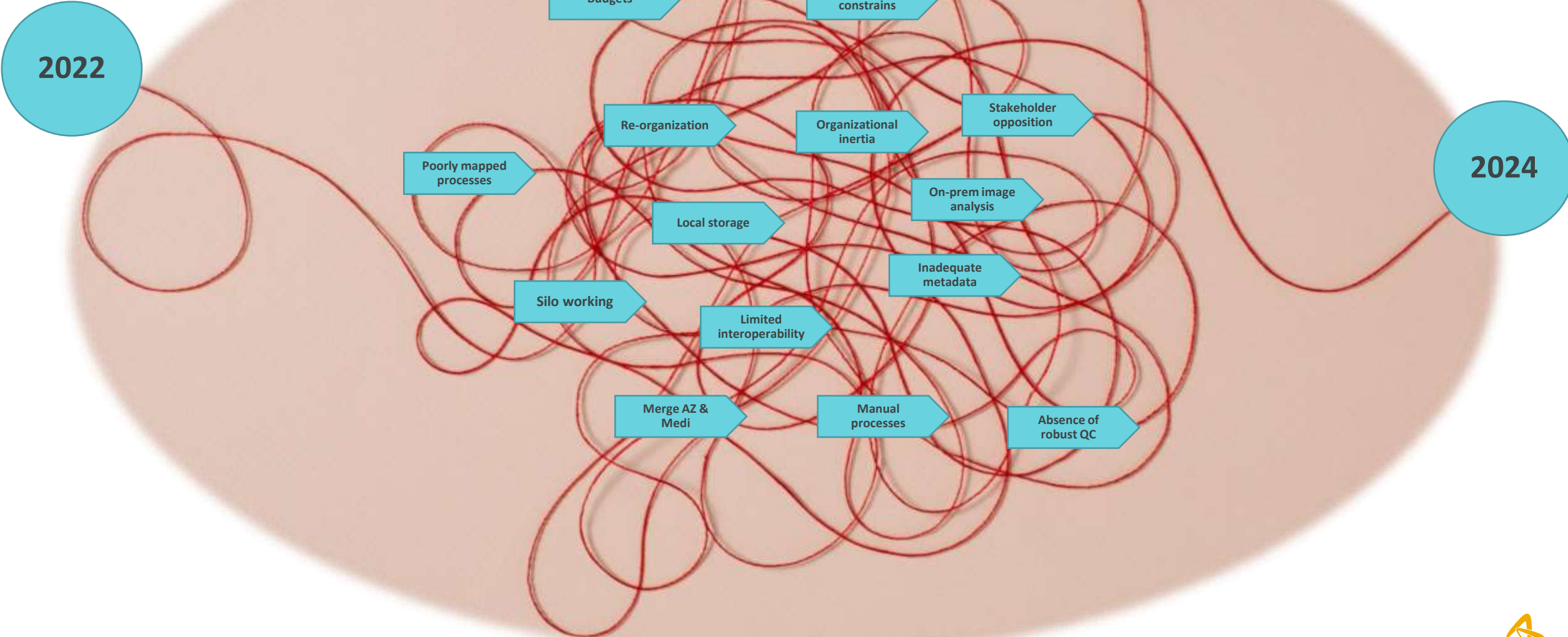
The Challenge

We need to look at multiple approaches for how we drive innovation as we need to be twice as fast, twice as efficient and the work is going to be twice as complex.

Workload



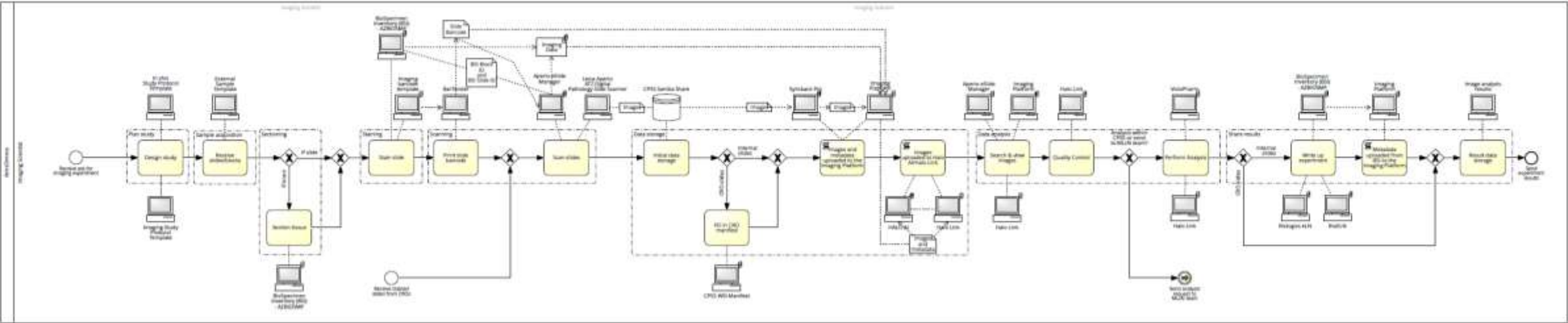
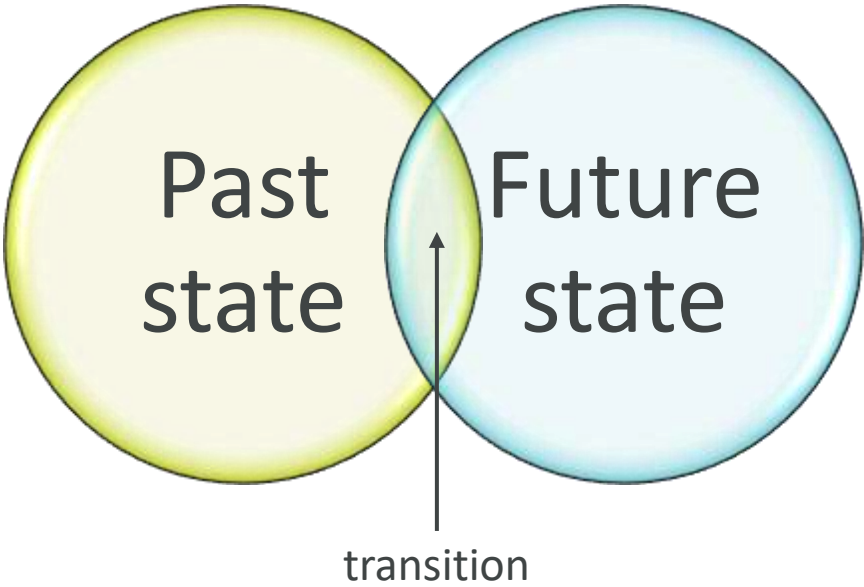
The Challenge



The Vision

By 2025, the Imaging Platform will seamlessly support the R&D Imaging Scientist in their "intent to insight" journey by making all our valued imaging assets discoverable and available when and where they are needed

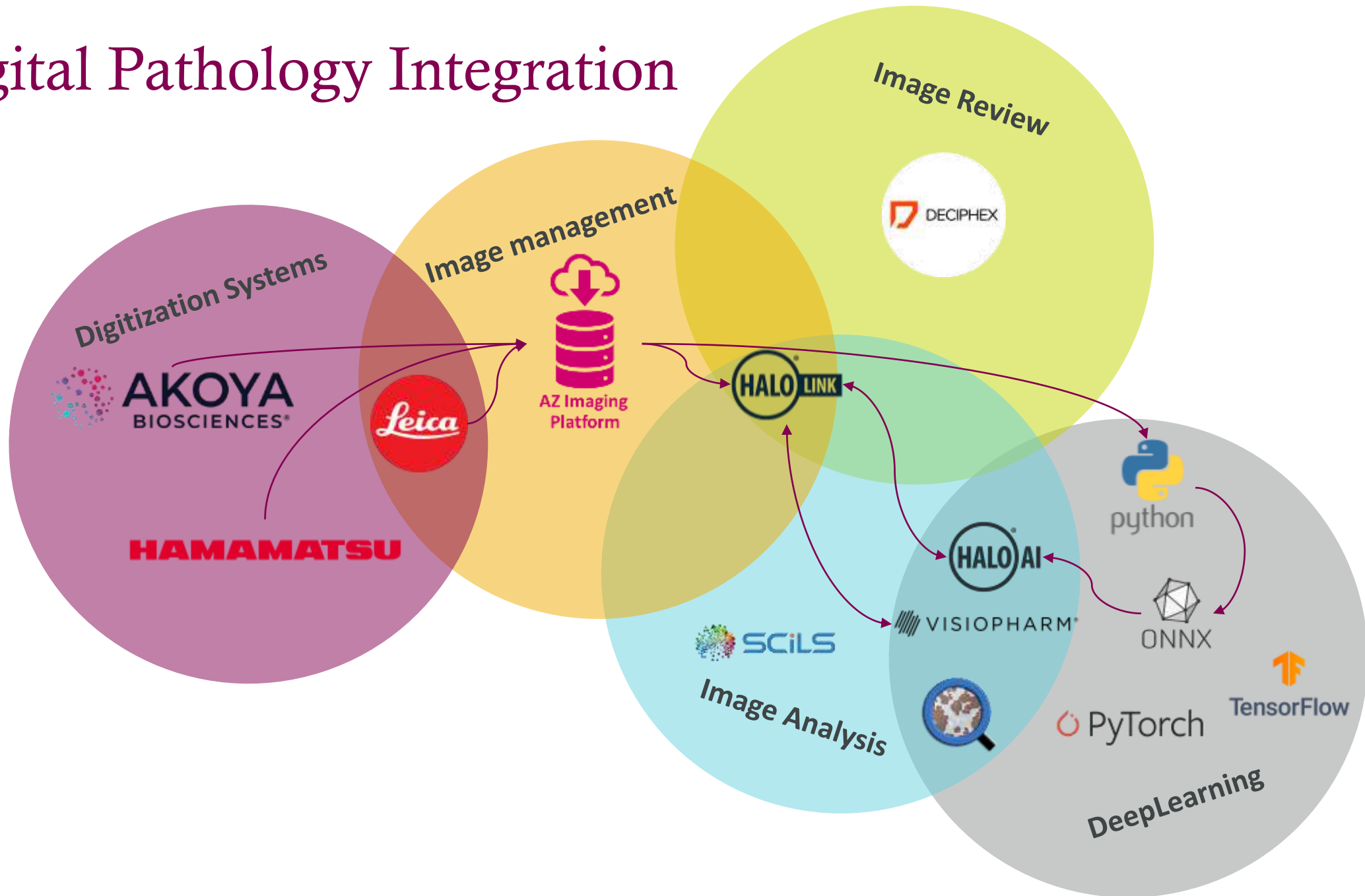
Mapping the change



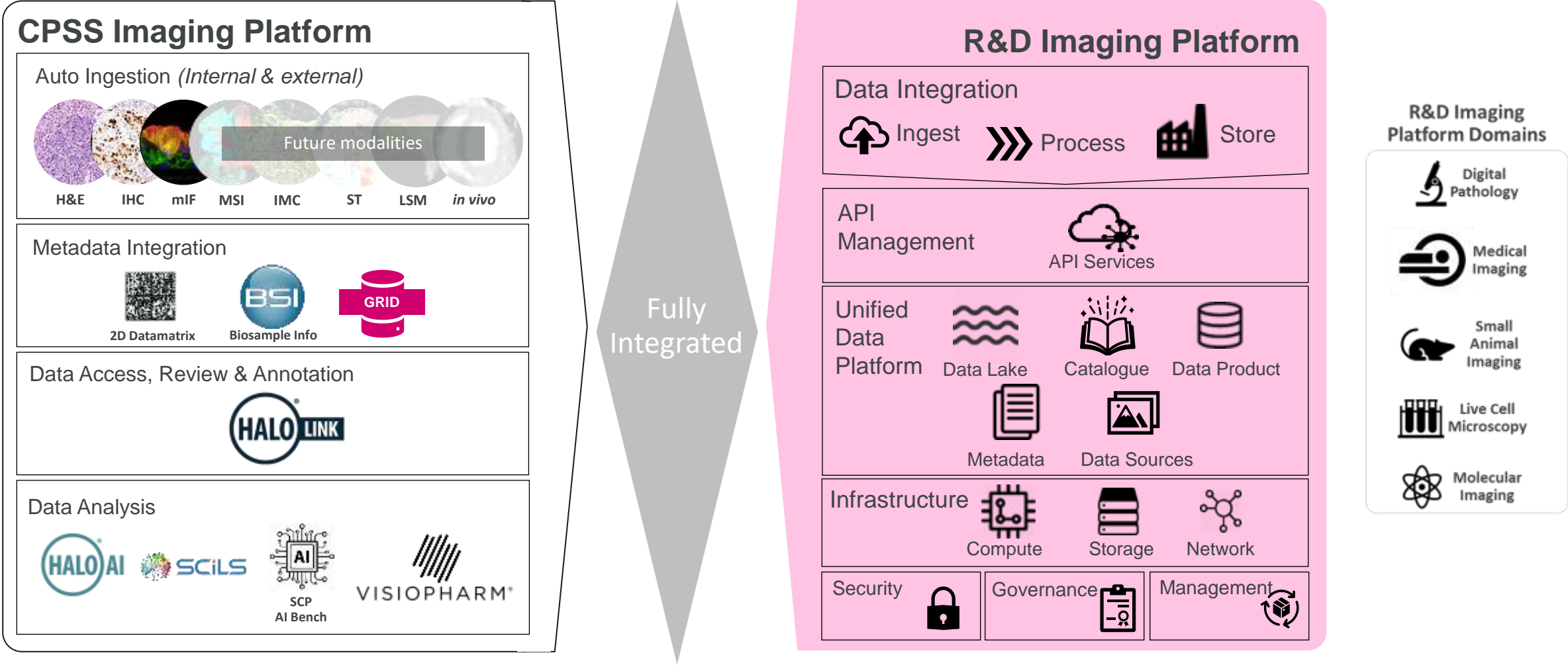
Optimise digital pathology workflow



Digital Pathology Integration



R&D Imaging Platform underpins CPSS Imaging Platform



The Opportunities

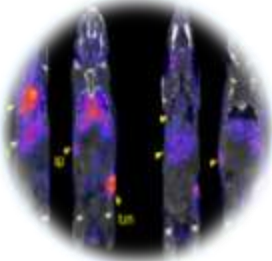
In life / in vivo
data

Ex vivo pathology
imaging

Other data
sources

In vivo imaging MRI, CT, PET

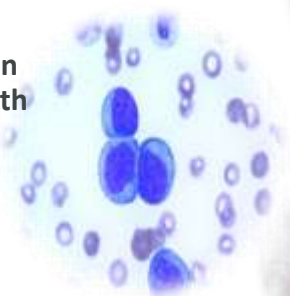
Bioluminescence



X-ray



Clin
Path



Clinical
Obs

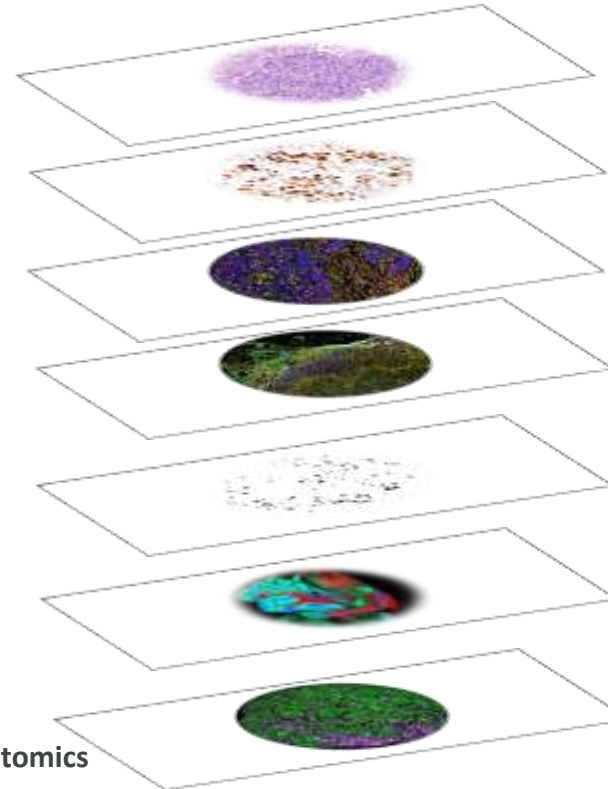


Protein {
H&E
IHC
mIF
IMC

RNA — ISH

Metabolic — MSI

Genome — Spatial
transcriptomics



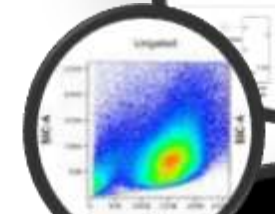
SEND data



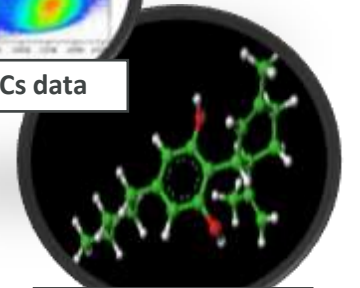
In Silico modelling



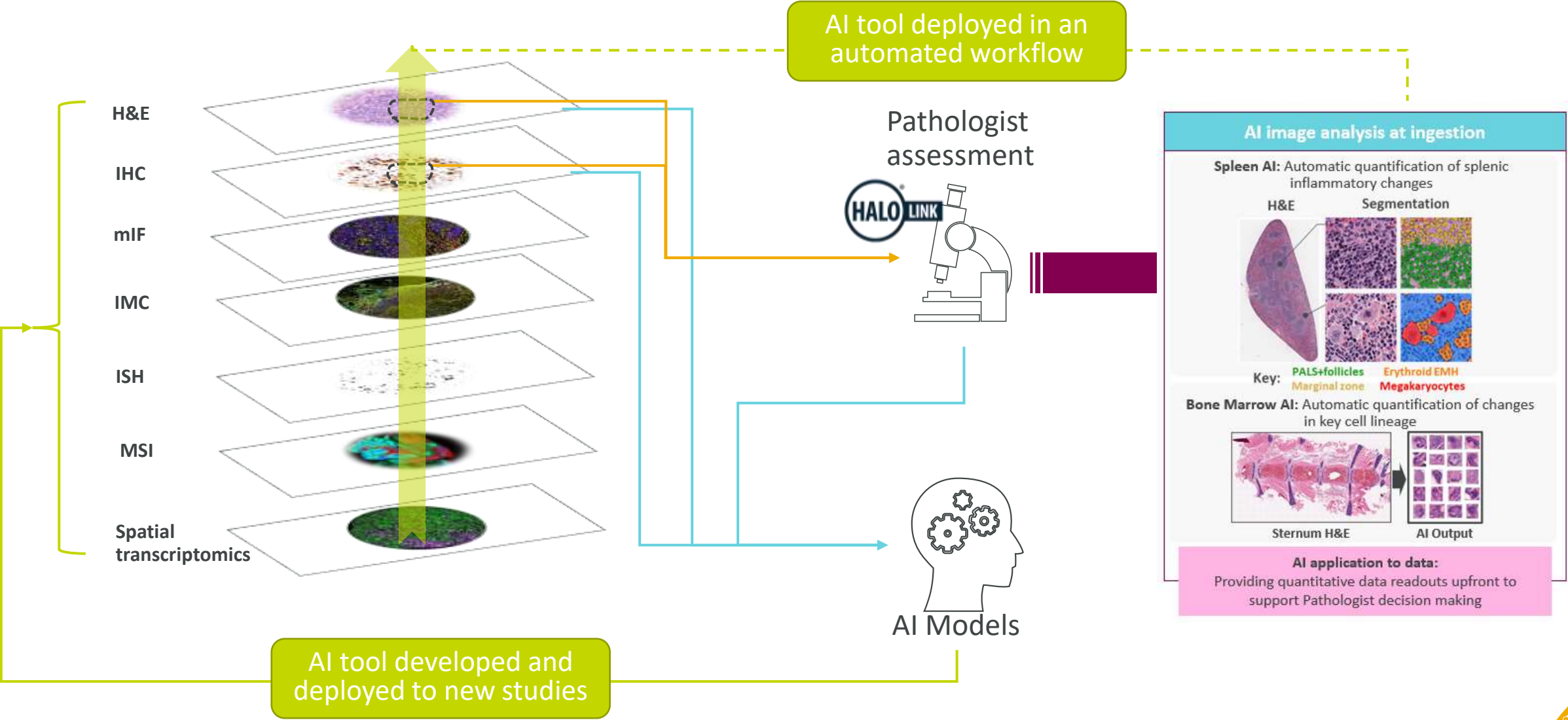
FACs data



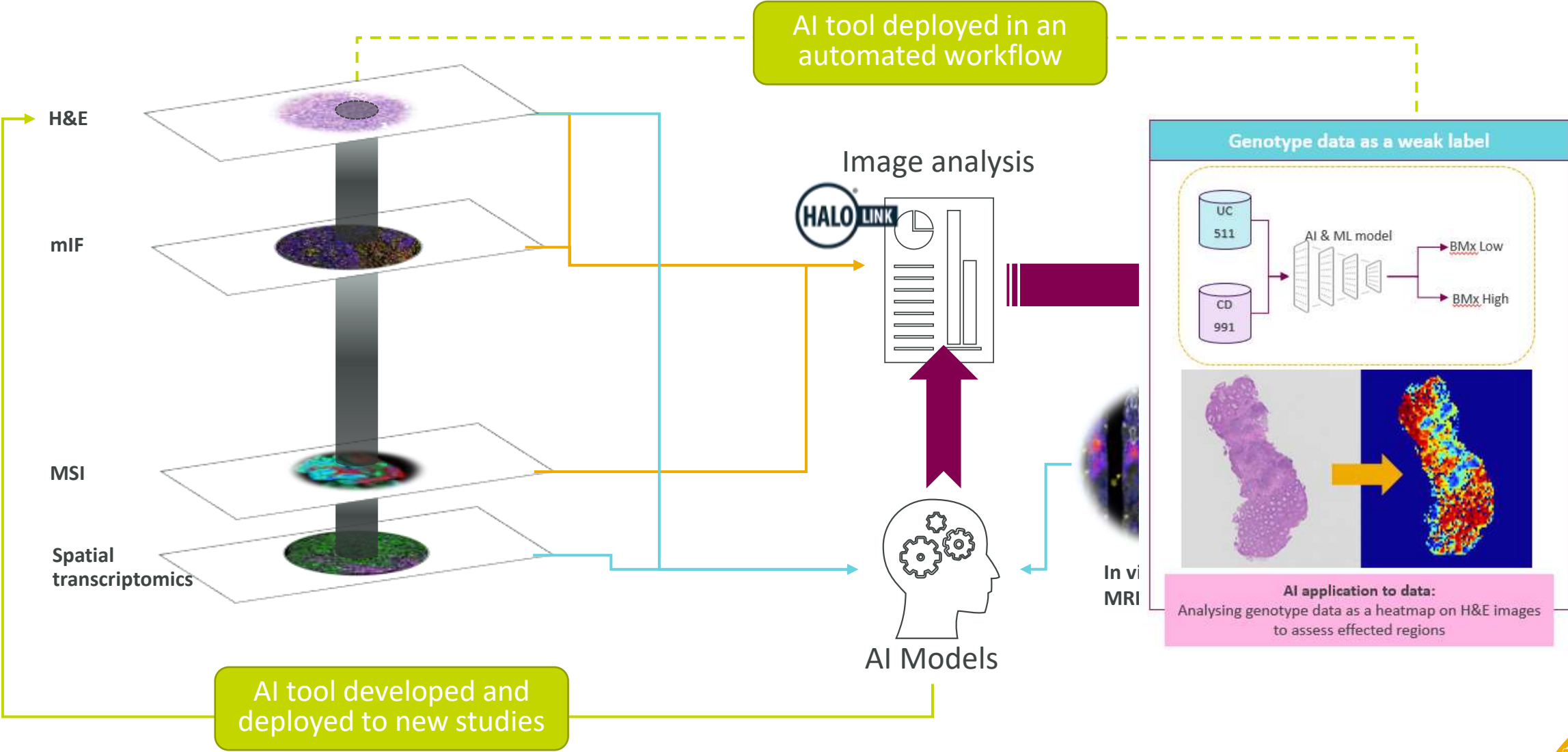
Chemical structure
& Properties



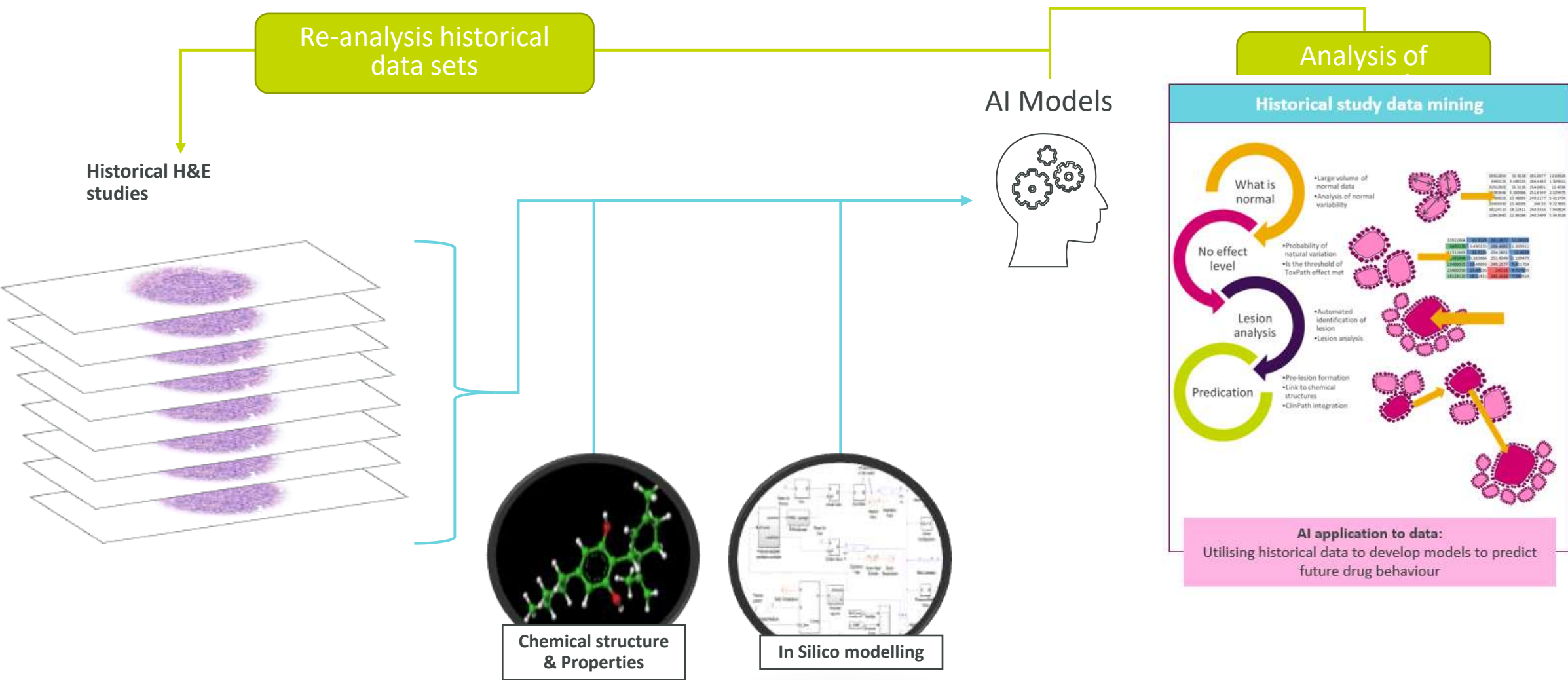
Pathologist assessment augmentation



Multimodal data



Historical assessment



In conclusion

Decreased development time

- Image analysis development time ↓ 50%
- Data delivery time reduced
- A single global access point to image data

Increased Collaboration

- Truly global workflow with deployment across geographies
- 87 active users with global pathologist access & review
- Data scientists and Image analysis scientist working together

Extended cloud capacity

- 125TB Ingested Image data
- 250K Images in 7K studies
- 110K Images Analysed
- Single metadata model & CRO ingestion route

Accelerated Innovation

- AI Steering committee
- 5 AI solutions impacting projects with 3+ studies
- 10 Data scientists working with 5 Image analysis scientists and 15 Pathologists



Acknowledgments



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- Yixin Wang

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- Mathew Woodward

R&D IT Imaging Platform

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- Ivan Pereda
- Sergei Petrov
- Michelle Chang
- IT Test Engineers

R&D IT

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- Derek Marren

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Thank you.