Techcyte Europe

Troy Bankhead, Director of Techcyte's European Operations

TECHCYTE

- **Artificial intelligence software**

Incorporation date in Luxembourg

- 2017

Number of employees in Luxembourg

- 4

Number of employees worldwide

- 18

Other emblematic locations

- Techcyte Inc., Orem, UT, USA
- Techcyte Mexico, Mexico

TECHCYTE

Accelerating diagnosis
through digital microscopy
and deep machine learning.

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See those two dots on the top of the cell in the center?
That's bartonella (it's bad).

Bartonella infects humans and is hard to detect.
IFA, PCA, and PCR tests are unreliable because concentrations of the microbe are very low with chronic infection.
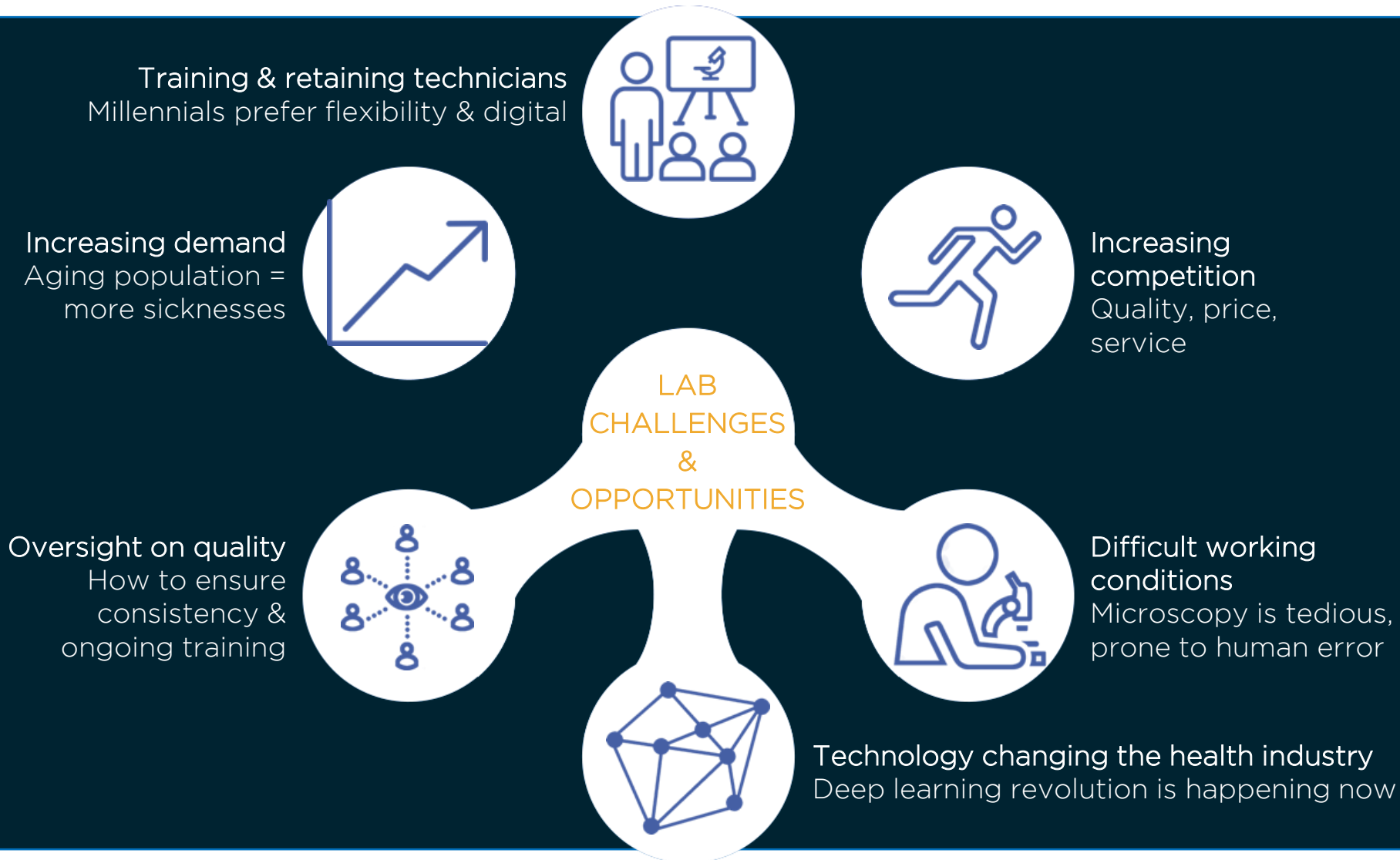**Even more reliable tests such as ePCR takes 2-4 weeks to perform.**
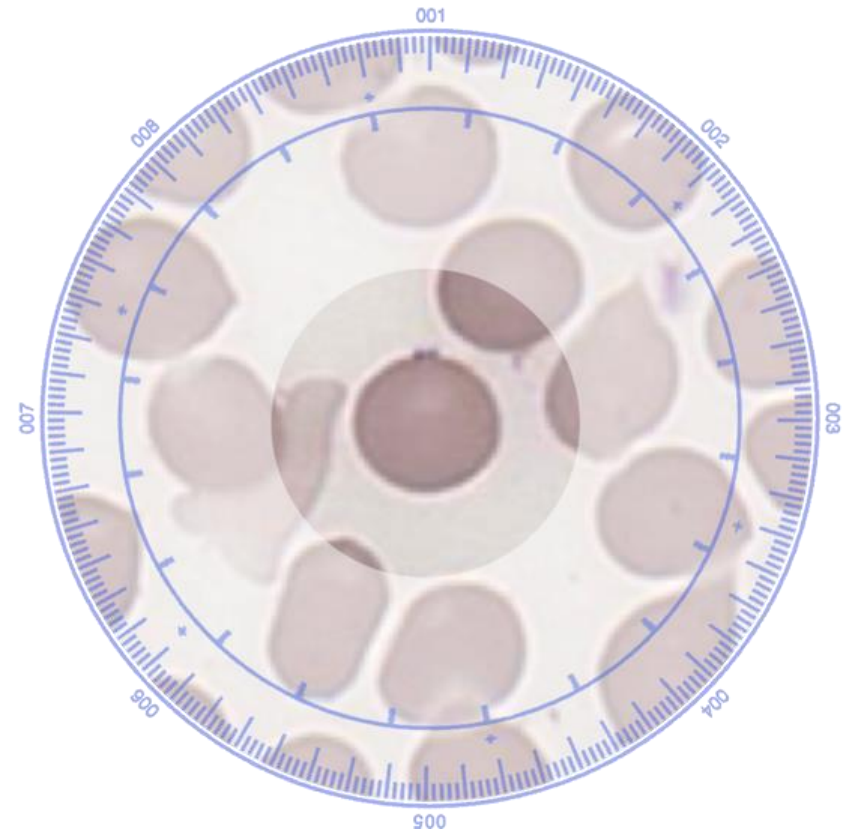
Now locate it on the next slide.

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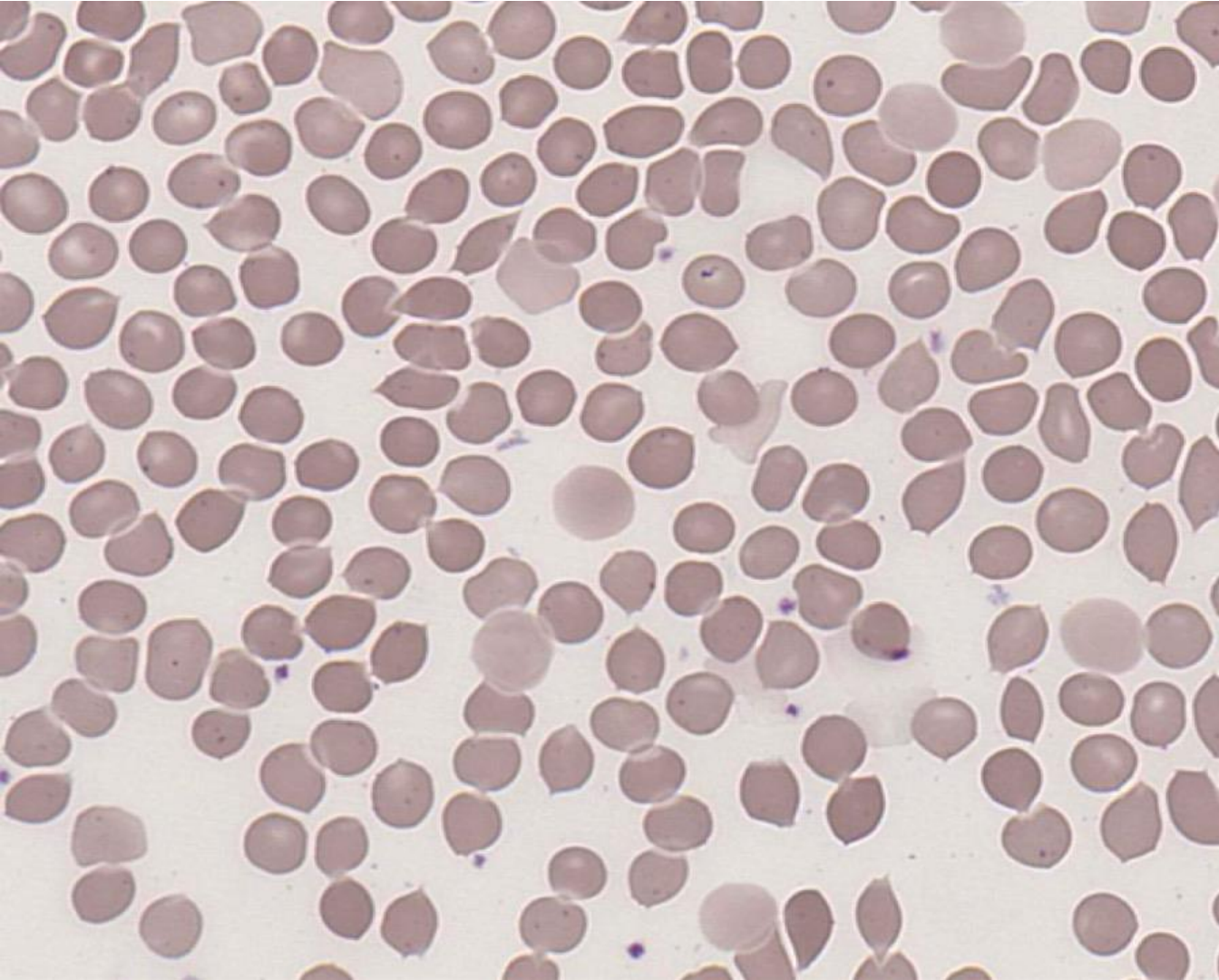
This is just a fraction of a whole slide sample.

It is but one of the many challenges that lab techs & pathologists face in their daily work.

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Training & retaining technicians
Millennials prefer flexibility & digital

Increasing demand
Aging population =
more sicknesses

Increasing competition
Quality, price, service

LAB CHALLENGES & OPPORTUNITIES

Oversight on quality
How to ensure consistency & ongoing training

Difficult working conditions
Microscopy is tedious, prone to human error

Technology changing the health industry
Deep learning revolution is happening now
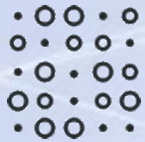
LUXINNOVATION
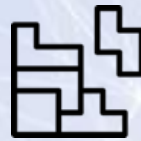TRUSTED PARTNER FOR BUSINESS

The solution:
Machine learning.

MACHINE LEARNING:

The field of computer science within artificial intelligence
that gives computers the ability to learn, without being explicitly programmed.

Recognizes patterns in data

Images, OCR, handwriting, voice, faces, objects, search, analytics, self-driving cars.

Can be used to solve difficult problems

Cancerous tissue, blood cells, parasites, infectious diseases like Tuberculosis, lyme co-infections, etc.

Deep machine learning

Enables much more complex problem-solving.

If a human can classify something, then a computer can too.

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A Service as a Software (SaaS) deep learning platform
that automatically classifies and counts targets on a digitized slide.

BENEFITS

✓ Increases lab efficiency, accuracy & profitability

✓ Increases lab revenues through additional tests

✓ Multiple tests supported (blood, fecal, pap, FNA, …)

✓ Low cost of implementation

✓ Enables remote pathology

✓ Vastly improves work environment for techs and pathologists

✓ Machine learning continually improving

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An interface designed for the user.

Fully mobile & tablet compatible

Cross-browser compatible for desktop viewing

Built from latest web platforms Google Go & React

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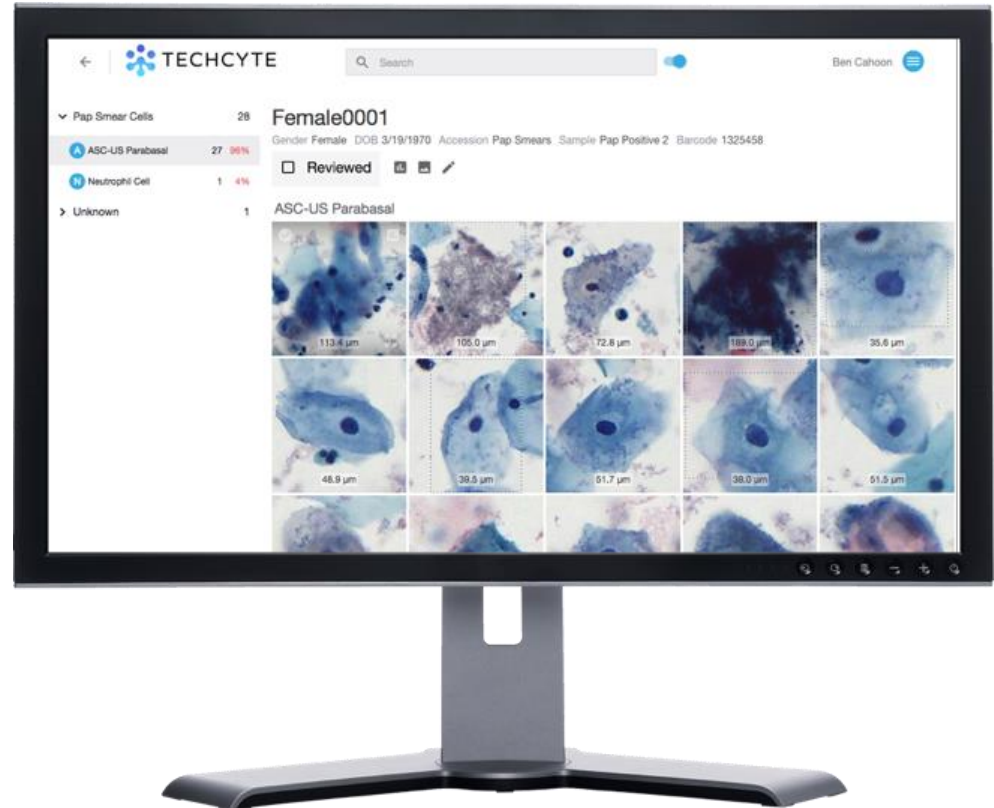
Made for the pathologist.

Multiple views enable technicians to efficiently review slides
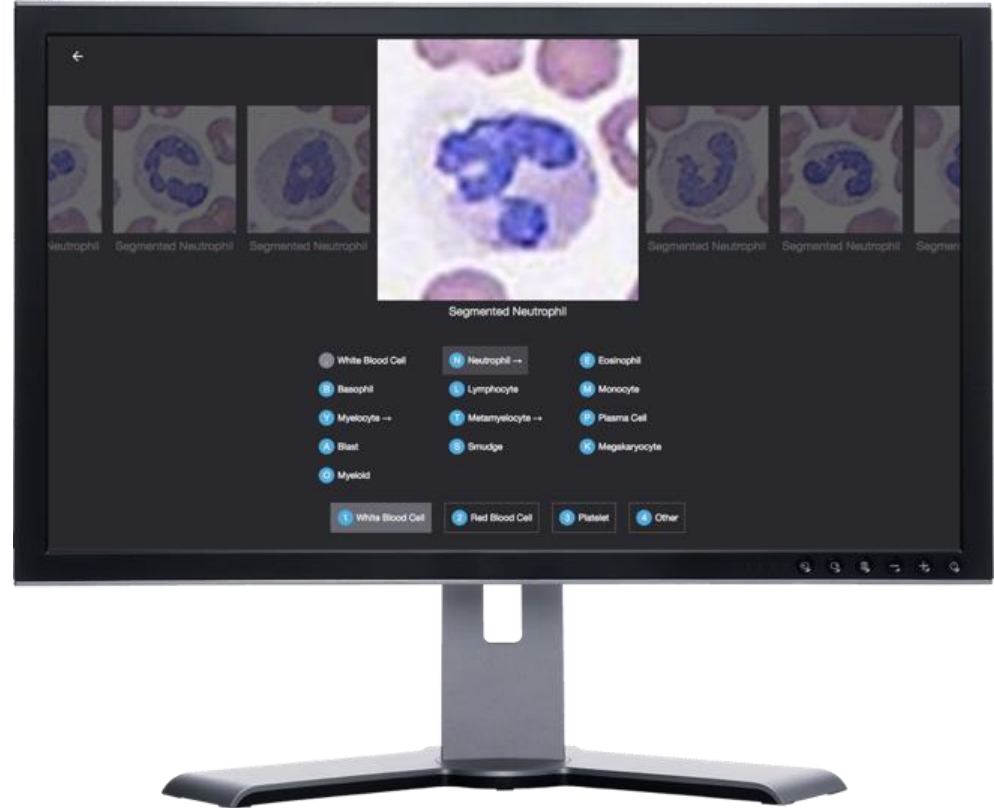
Ever-growing.

Platform for multiple tests, from blood to pap smears and beyond...

The more experts use the system, the smarter it gets.

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Powerful reporting integration.

Lab-tested templates

Full API for easy integration with your Lab Information System

Hardware agnostic.

Wide range of digital slide scanners accepted.

Different scanners for different applications

Manual image upload or scanner integration available

Features

- ✓ Automated classification
  of targets
- ✓ Cell images
  - Each cell identified with size shown
  - Can be seen in context, are sortable
  - Annotations, sharing, API integration
- ✓ Cell counts and percentages
- ✓ Automated barcode assignment
- ✓ Optional manual classification
  - Using mouse or keyboard
  - Easy addition of classifications
- ✓ Full slide viewer

- ✓ Comprehensive reporting
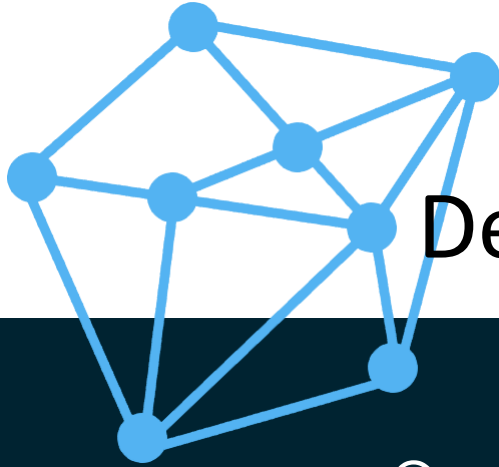 - Add images and notes
  - Exportable to IS systems
- ✓ Image storage
- ✓ Workflow-enabled
  - Roles
  - User assignment
  - Queues
  - Status
- ✓ Designed for desktop & mobile
- ✓ Hardware agnostic

Deep learning algorithms

Current

- Complete Blood Count 14-part digital differential (sub-classes underway)

- Fecal ova & parasite test

- Pap smear (full Bethesda reporting)

- Bacteriology test

Future

- Fine needle bone aspirate

- Urine analysis

- Leukemia, Tuberculosis

- Circulating tumour cells

- Other infectious diseases

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Why Techcyte?

✓ **Digital diagnostics are more accurate, faster & less expensive than manual microscopy**

✓ **Deep learning image analysis is a "killer" app**

✓ More robust handling of stains & slide prep

✓ Shallow learning more accurate

✓ Quickly train new algorithms

✓ Algorithms always improving

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Why Techcyte?

✓ **Helps labs become more efficient and profitable**

✓ **Enables technicians to work remotely and more comfortably**

✓ **Quicker results for doctors and patients**

Let's talk.

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