



**DATEXIM**  
Digital Pathology Future



# CytoProcessor<sup>®</sup>: A New Cervical Cancer Screening System for Remote Diagnosis

## Poster Presentation:

**Arnaud Renouf**, President & Co-Founder, PhD  
**Christian Potel**, VP Sales & Marketing

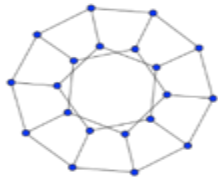
info: [contact@datexim.com](mailto:contact@datexim.com)



## SDiPath

Mikroskopie Hörsaal  
Institute for Pathology  
University of Bern  
*6<sup>th</sup> of June 2019*

# DATEXIM



- From Public Research Lab, CNRS, France
- **Specific skills**
  - Image processing and analysis
  - Artificial Intelligence (Machine Learning & Deep Learning)
  - Anatomico-pathology & Digital Pathology
- **Team**
  - 6 PhD (Computer Sciences, Artificial Intelligence, Cell Biology)
  - 1 Sales & Marketing Director
  - 1 Engineer (Computer Sciences, network, support)
  - 1 CT (IAC)

# Digital Pathology... NOW !



+



^



Volume  
Sensitivity



Time  
Cost

# Digital Cervical Cancer Screening Solution



**CytoProcessor™**

# Complete Chain for Cytology

**CytoProcessor™** enters seamlessly in your laboratory practice

 **sysmex** proposes an integral solution



Sample  
collection



Sample  
preparation



Slide  
scanning

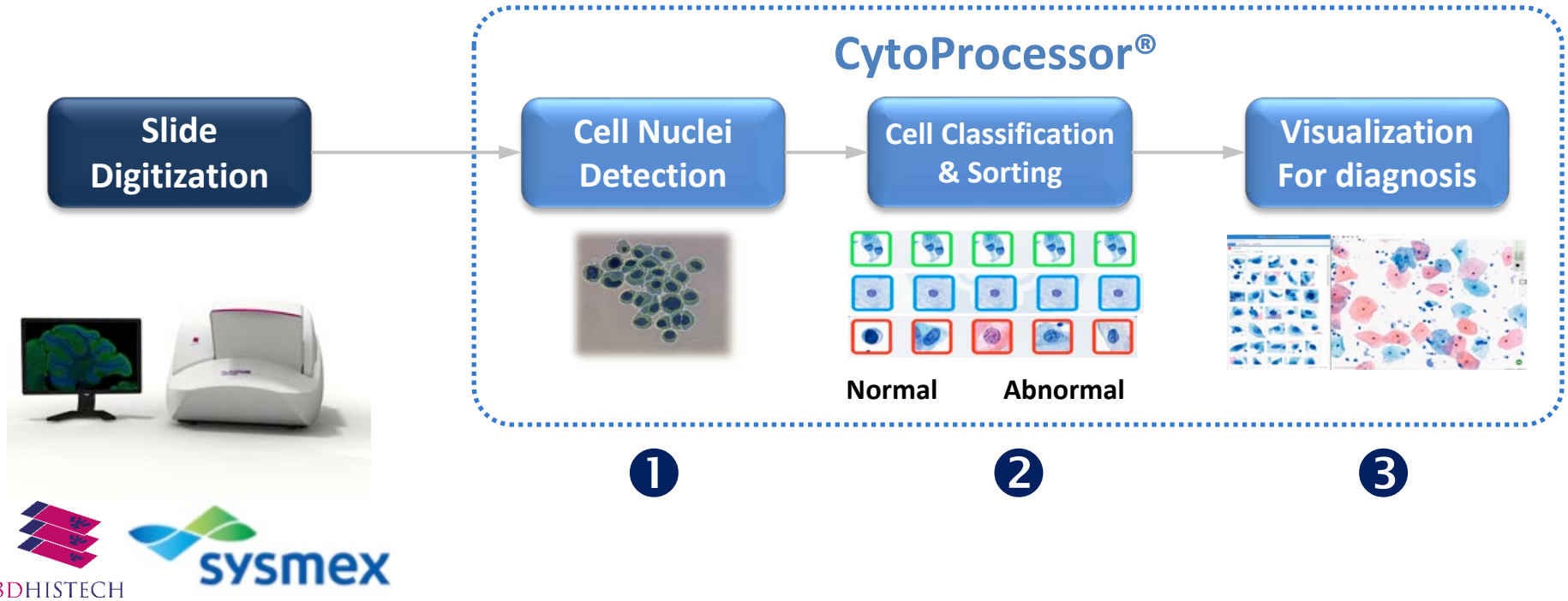


**CytoProcessor™**



Diagnosis

# CytoProcessor<sup>®</sup>: 3 steps



# Quality and regulation

- **Certified ISO 13485**
- **4 years of clinical research with top-tier partners**
  - ✓ gathering and optimizing 200+ morphometric criteria
  - ✓ field validation on real routine tests
- **CE marking in November 2017** for CytoProcessor
  - ✓ 1 Clinical Validation in a public hospital in Cherbourg, France
    - ✓ Study to compare to manual review in Cherbourg Hospital center
    - ✓ Published in Diagnostic CytoPathology
  - ✓ 1 Clinical Validation in a private laboratory in Lyon, France
    - ✓ Study to compare to Hologic ThinPrep solution
    - ✓ Published in ActaCytologica
- **2 private labs running in routine**
  - 30k and 100k analysis per year



CHUCaen



# Clinically proven performance

Non-interventional clinical study in a high throughput private laboratory (140k LBC smears per year)

- Comparing **CytoProcessor** and the **Hologic ThinPrep Imager**
- Ground truth established by collegial review of discordances
- 9 investigators from a private laboratory

Clinical testing of a complete solution



+



+





# Clinical Validation Conclusion: Better performance at every level

**Imager: 4%** of patients with a lesion were missed.

54 false negatives, including 14 LSIL and 1 ASC-H.

**CytoProcessor: 1.5%** of lesions were missed.

21 false negatives, including 6 LSIL

**=> 2.5-fold decrease!**



**The gain in sensitivity is attained without sacrificing specificity.**

CytoProcessor had a specificity of **87%** after training with a set of 100 slides.

The Imager had a specificity of **85%** for the same slides.

# Conclusion

- **Eliminate** handling and cost of fragile glass slides and transportation
- **Remotely Access** slides immediately with a single click
- **Eliminate** error-prone searching for abnormal cells in fields of view
- Visualize **directly** the most pertinent cells for diagnosis
- Let CytoProcessor **accelerate** the tedious work of screening
- Reach the right diagnosis **faster**



**Digital Pathology NOW**  
**!**  
**FASTER AND BETTER**