# REAL TIME MONITORING OF CELL CULTURE

## WITH LENSLESS IMAGING TECHNOLOGY

## CELL COUNT AND VIABILITY

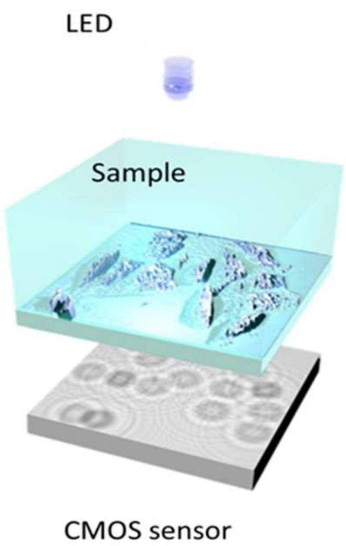
Mammalian Cell Culture
Cell Line Development – Media/Process Development – DRUG Discovery

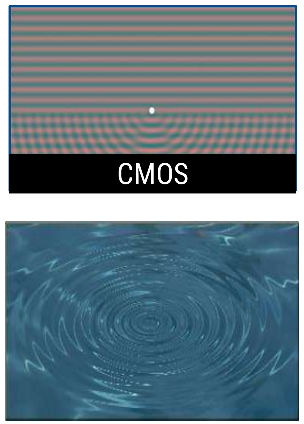


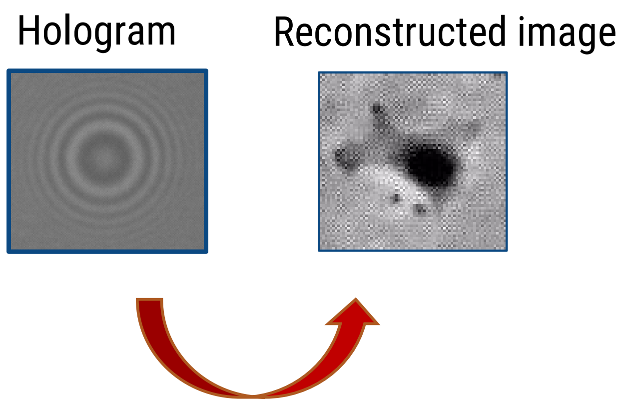
**Solutions for HT Platform and Easy Benchtop Cell Counter**

# LENSLESS IMAGING TECHNOLOGY

1. Light is emitted by a LED
2. Cells diffract light and create holograms
3. Cells holograms are recorded by a CMOS Sensor
4. Cell images are reconstructed from holographic algorithms



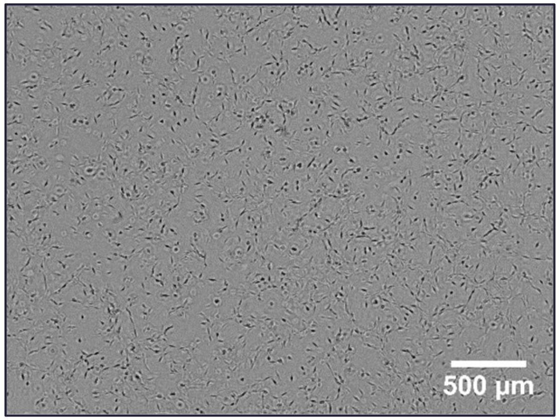




**INNOVATION and REVOLUTION**

*** Patented**

## LENSLESS IMAGING TECHNOLOGY * - BENEFITS




- Extremely Wide Field Of View : 29.4 $mm^2$
- No focus, No brightness, No settings
- Simple and Robust technology for continuous monitoring
- High contrast compared to brightfield

- Works with any standard single-use petri dish, T-flasks, Well-plates, Slides,…
- Work with both adherent and suspension cell lines
- Thousands of cells observed in only one picture → Statistical Accuracy

**INNOVATION and REVOLUTION**

* Patented

# NORMA XS


AUTOMATIC CELL COUNT AND VIABILITY ANALYZER

The easiest solution for accurate and precise viable cell count

The most simple benchtop counter

IPRASENSE

# NORMA XS

## The most simple benchtop counter



1. Load the sample into the slide chamber

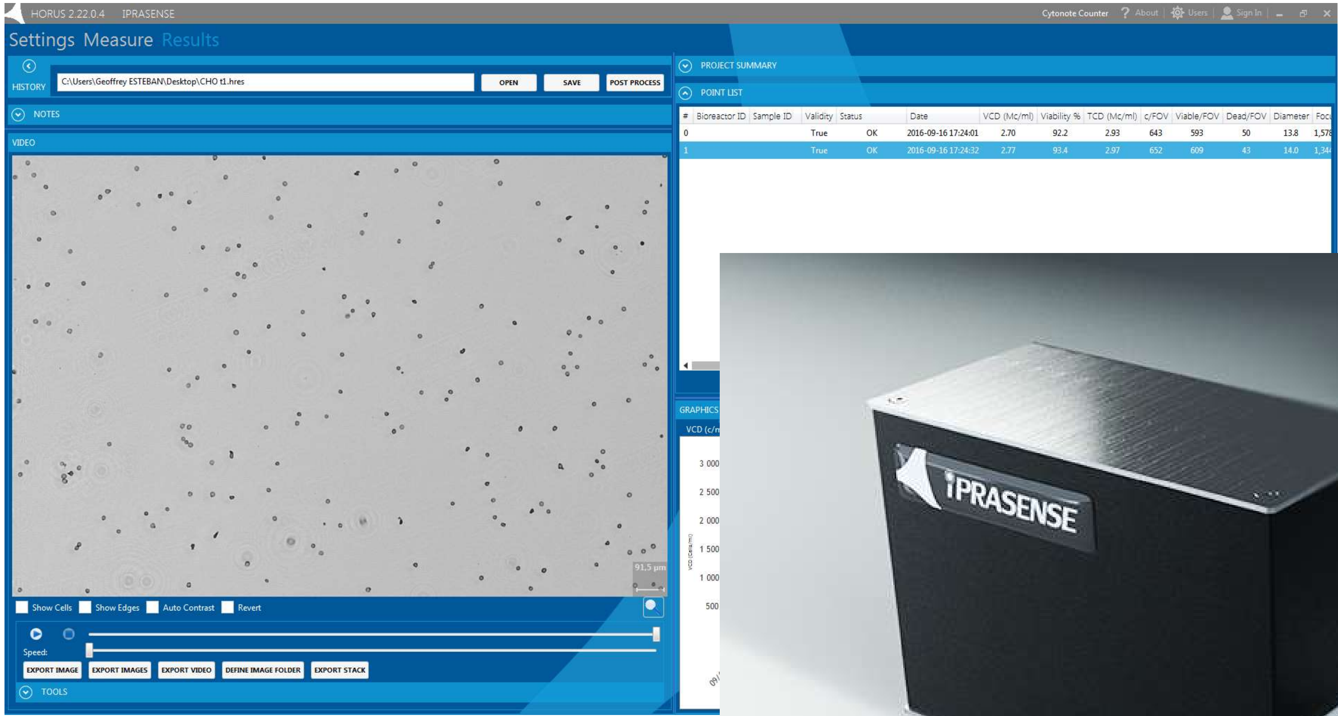
2. Insert the slide chamber into the NORMA XS

3. Press “Measure”

- **AUTOMATIC** CELL COUNT
- **VIABILITY**
- **CELL SIZE** DISTRIBUTION
- **RATIO** ASPECTS
- **GROWTH** CURVES

NORMA XS

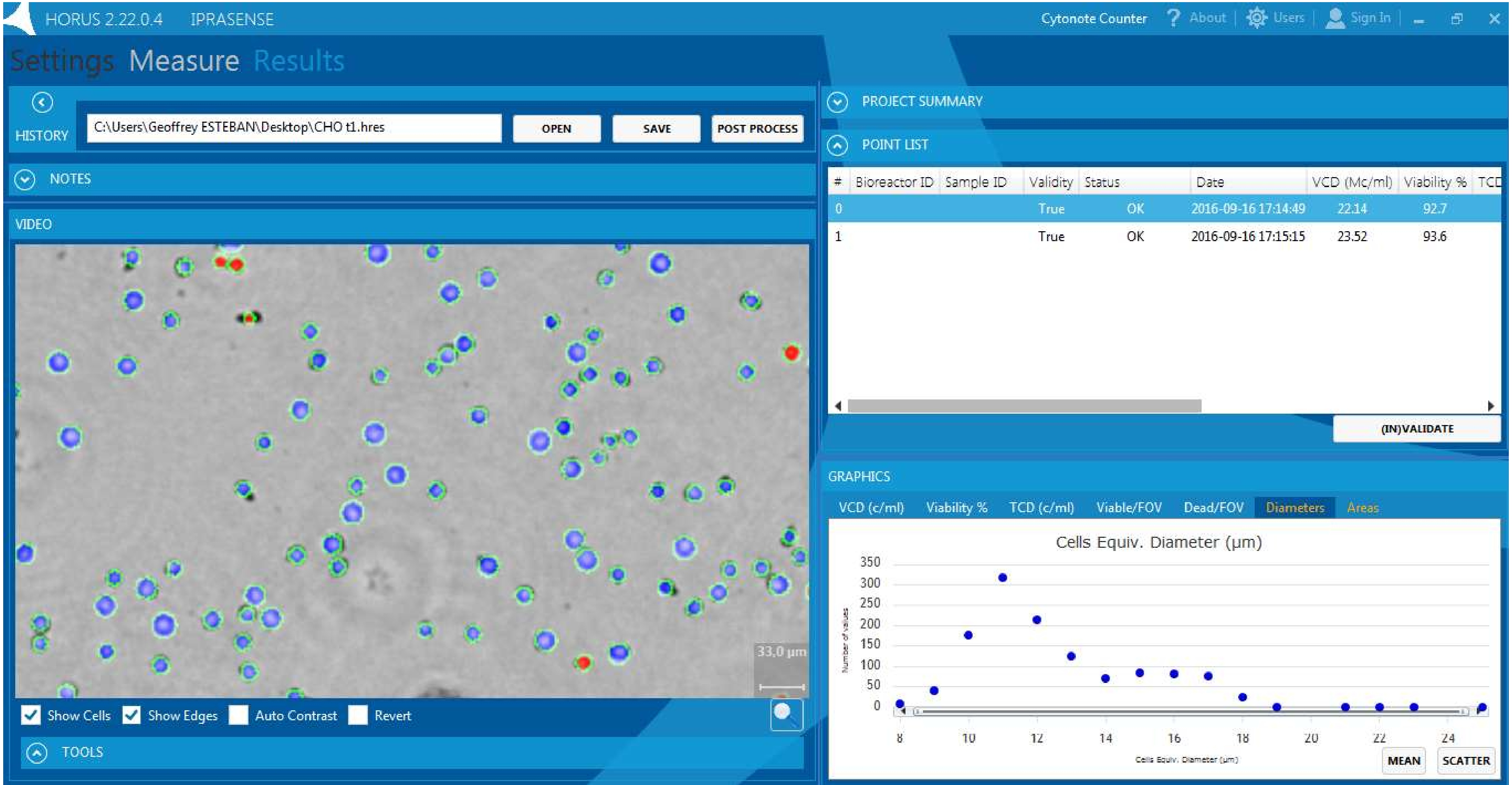
# Systems components

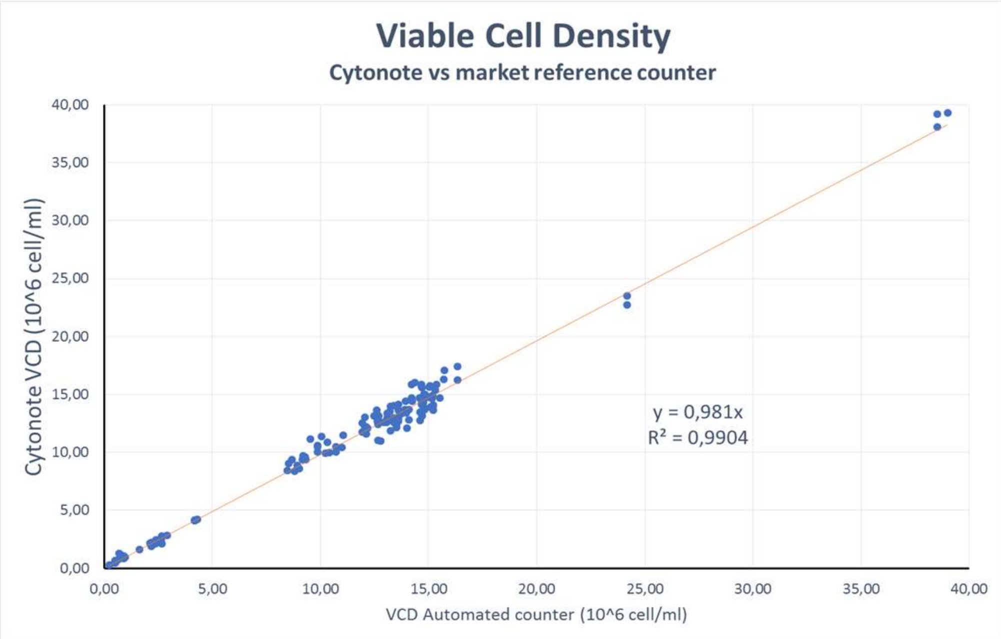

IPRASENSE

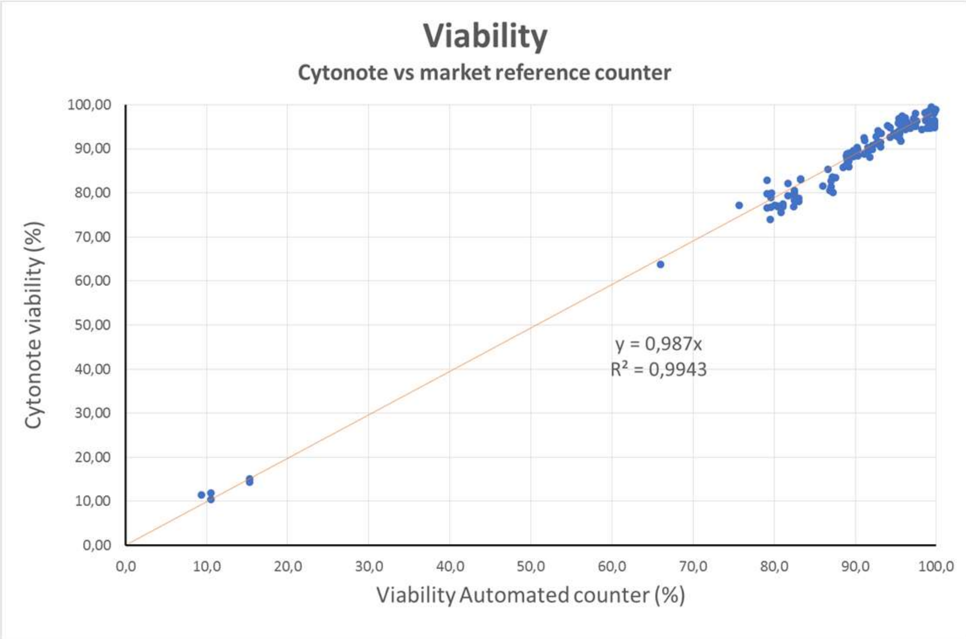
# NORMA XS

## Suspension cell count



# Systems components



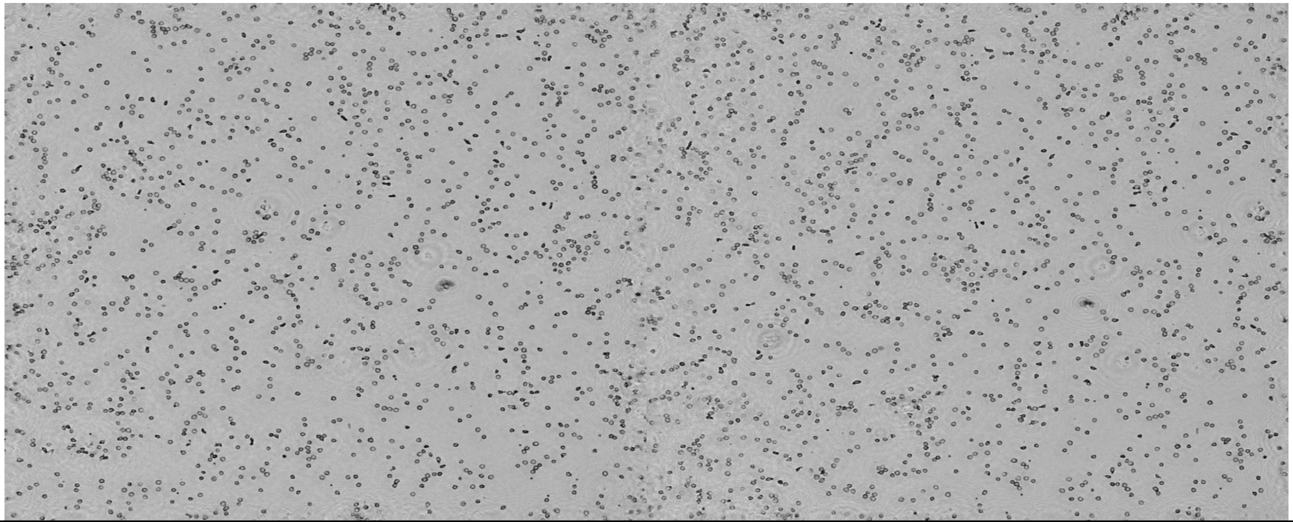




Comparison realised by a major pharma – 72 Analyses

NORMA XS

## Systems components


**6000 cells in one single image**



| REPEATABILITY | CV (%) |
|---|---|
| Single sample injected in 12 different chambers and measured with 1 Cytonote | 3.23 |
| Single sample injected in 1 chamber and measured with 5 separate Cytonote | 3,54 |

IPRASENSE

# NORMA XS

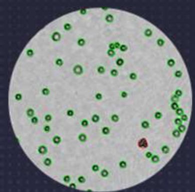
## Benefits


**SAMPLE PREPARATION FREE**

**3-8 µl SAMPLE VOLUME**

- SIMPLE SETUP
- HIGH REPRODUCIBILITY
- ULTRA WIDE CONCENTRATION RANGE
- VERY LOW SAMPLE VOLUME
- CORRELATE WITH REFERENCE METHODS
- COST EFFECTIVE

SHORT TIME **RESULTS**



LABEL **FREE**

CV 3%

HIGH **REPRODUCIBILITY**

iPRASENSE

# NORMA HT


## HIGH THROUGHPUT CELL COUNT AND VIABILITY ANALYZER

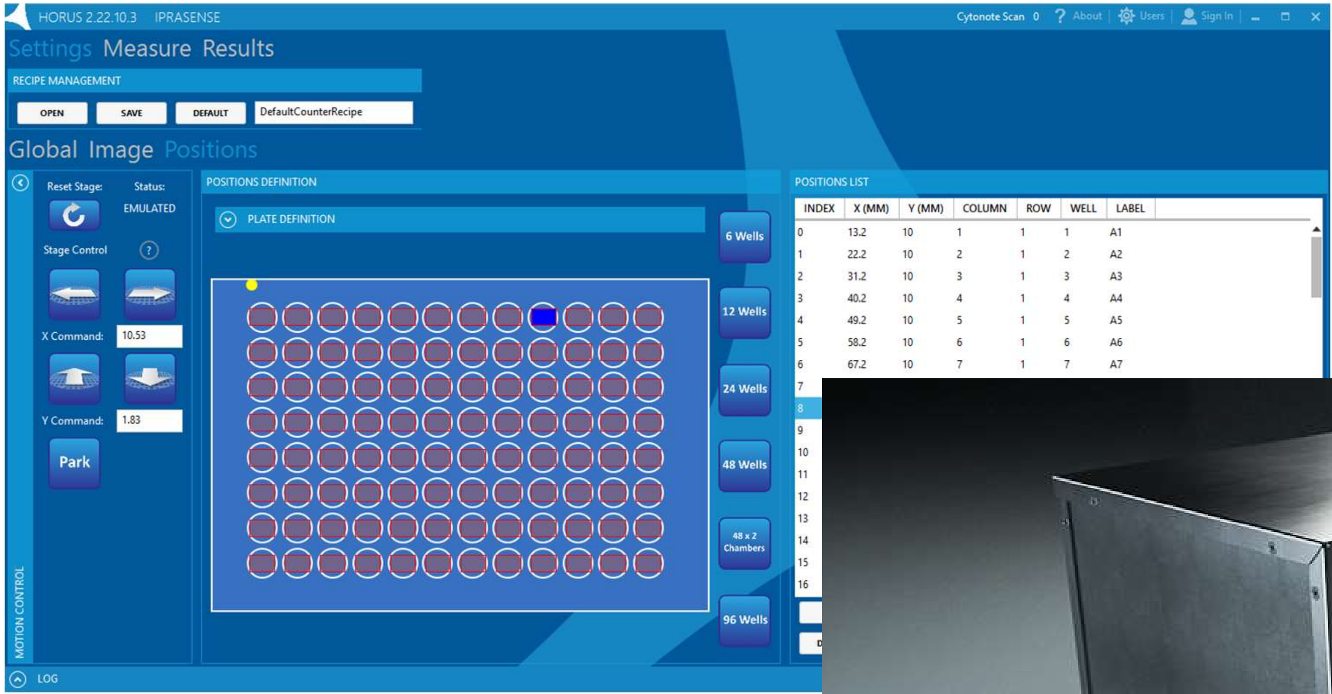
The fastest solution for viable cell count

The most simple automatic Cell Counter
for High Throughput parallel culture monitoring

iPRASENSE

NORMA HT

# Systems components

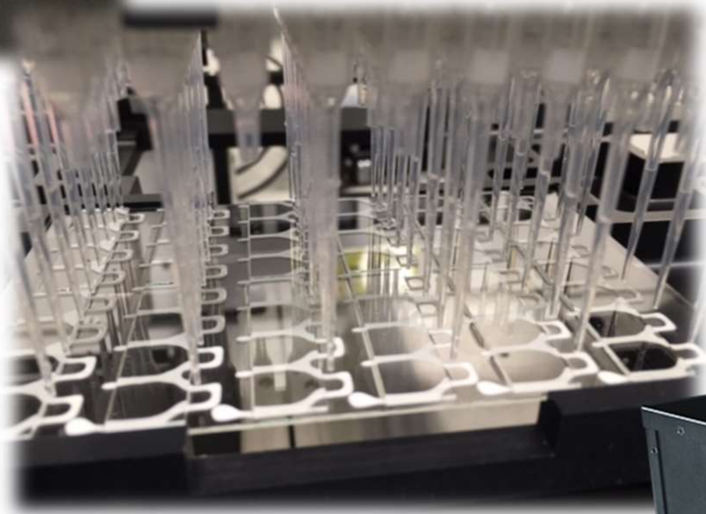




IPRASENSE

# NORMA HT

## Multiwell plate solution

VCD Solution for cultures in 24/48/96 well plates



Transfert to IPRASENSE 48 chambers slides

Very low sample volume: 3-8 µl
Still no trypan blue


HIGH THROUGHPUT CELL COUNTER

iPRASENSE

# NORMA HT

## Benefits

SAMPLE PREPARATION FREE

3-8 µl SAMPLE VOLUME

ULTRA FAST PARRALLEL RESULTS

SIMPLE SETUP for AUTOMATION

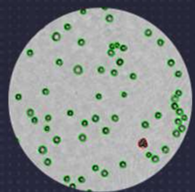
HIGH REPRODUCIBILITY

ULTRA WIDE CONCENTRATION RANGE

VERY LOW SAMPLE VOLUME

CORRELATE WITH REFERENCE METHODS

SHORT TIME **RESULTS**



LABEL **FREE**

CV 3%

HIGH **REPRODUCIBILITY**

# NORMA 4S

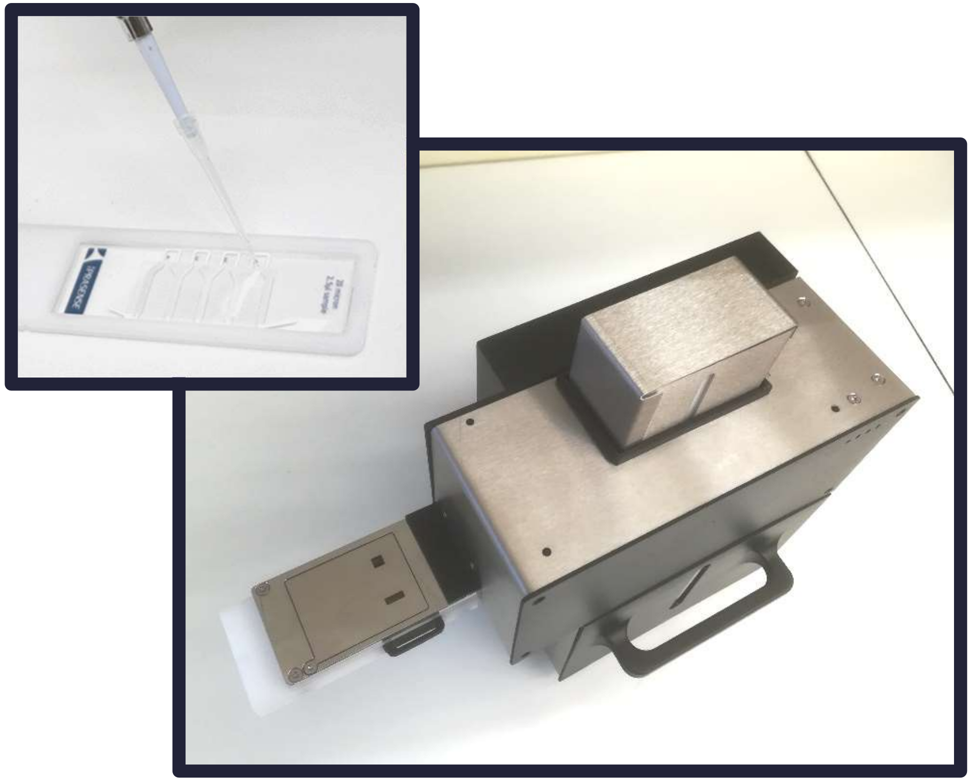
FULLY AUTOMATIC
CELL COUNT AND VIABILITY ANALYZER


Ideal for Small Scale
High Throughput Parallel Bioreactors

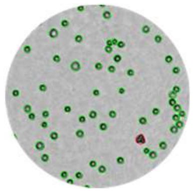
Ideal for receiving samples from Automated Samplers

# NORMA 4S

## Overview




**SAMPLE PREPARATION FREE**



**LABEL FREE**

**3-8 µl SAMPLE VOLUME**

iPRASENSE

# NORMA 4S

## At Work

SAMPLE PREPARATION FREE

3-8 µl SAMPLE VOLUME

SHORT TIME **RESULTS**

LABEL **FREE**

CV 3%

HIGH **REPRODUCIBILITY**

IPRASENSE

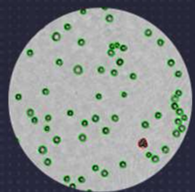
# NORMA 4S

## At Work

SAMPLE PREPARATION FREE

3-8 µl SAMPLE VOLUME

SHORT TIME **RESULTS**



LABEL **FREE**

HIGH **REPRODUCIBILITY**

IPRASENSE

# NORMA 4S

## Benefits

**SAMPLE PREPARATION FREE**

**3-8 µl SAMPLE VOLUME**

ULTRA FAST REAL TIME RESULTS

SIMPLE SETUP for AUTOMATION

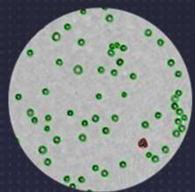
HIGH REPRODUCIBILITY

ULTRA WIDE CONCENTRATION RANGE

VERY LOW SAMPLE VOLUME

CORRELATE WITH REFERENCE METHODS

SHORT TIME **RESULTS**



LABEL **FREE**

CV 3%

HIGH **REPRODUCIBILITY**

## CELL COUNT AND VIABILITY

Mammalian Cell Culture - Cell Line - Media/Process Development - DRUG discovery

SAMPLE PREPARATION FREE

SHORT TIME RESULTS

HIGH REPEATABILITY

LOW SAMPLE VOLUME

**Best Solution for your HT platform Easy Benchtop Cell Counter**

### NORMA HT

Viable Cell Density and Viability for High Throughput and µl Scale



### NORMA XS

The Easiest Solution for Accurate and Precise Cell Count

# SUMMARY

## LIVE CELL IMAGING INSIDE THE INCUBATOR

Cell Biology - Cancer/Stem Cell research – DRUG Discovery

- LABEL FREE & HIGH CONTRAST
- ALWAYS IN FOCUS
- SETTINGS FREE
- HUGE FIELD OF VIEW

**Best solution for your Live Cell Based assy Cell Migration/Proliferation/Angiogenesis**

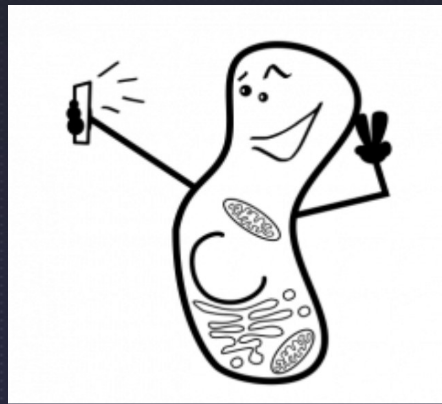
### CYTONOTE 1W

Time-Lapse images of cells and real time analysis from inside your incubator

### CYTONOTE 6W

Time-Lapse images of cells and real time analysis from inside your incubator, specifically designed for parrallel culture monitoring in 6 wells plates

# Contact



Contact-Info@celld.com

04 66 82 82 60

**CellD**
20bis rue du Chapitre
F-30150 Roquemaure
www.celld.com
Fax 04 66 90 21 10