

CellaVision® DC-1

Custom-designed to modernize the process of performing blood cell differentials in low-volume laboratories.





We're bringing the implementation benefits of Digital Cell Morphology to small labs

CellaVision DC-1 is a revolutionary hematology analyzer that is custom-designed to optimize the process of performing blood cell differentials in low-volume labs. It effectively automates and simplifies the work that is traditionally done by medical technologists using conventional microscopy.

CellaVision has a proven track record of helping larger labs transform this important routine procedure, and now the time has come to close the technology gap and enable smaller labs to benefit from the same set of well-documented operational and clinical implementation benefits.

The workflow explained

A technological shift

The microscope is replaced by a CellaVision DC-1 analyzer.

Cell location and image capture

The analyzer identifies the monolayer, locates individual cells and captures high-quality digital images of cells.

Review and verification

The pre-classified and pre-characterized cells are presented to the medical technologist for review and verification. Structured interfaces, smart functionalities and embedded tools help speed up the review process while promoting accuracy and consistency. The verification can be done either on the site where the slide was processed or at another affiliated laboratory.

Slide processing

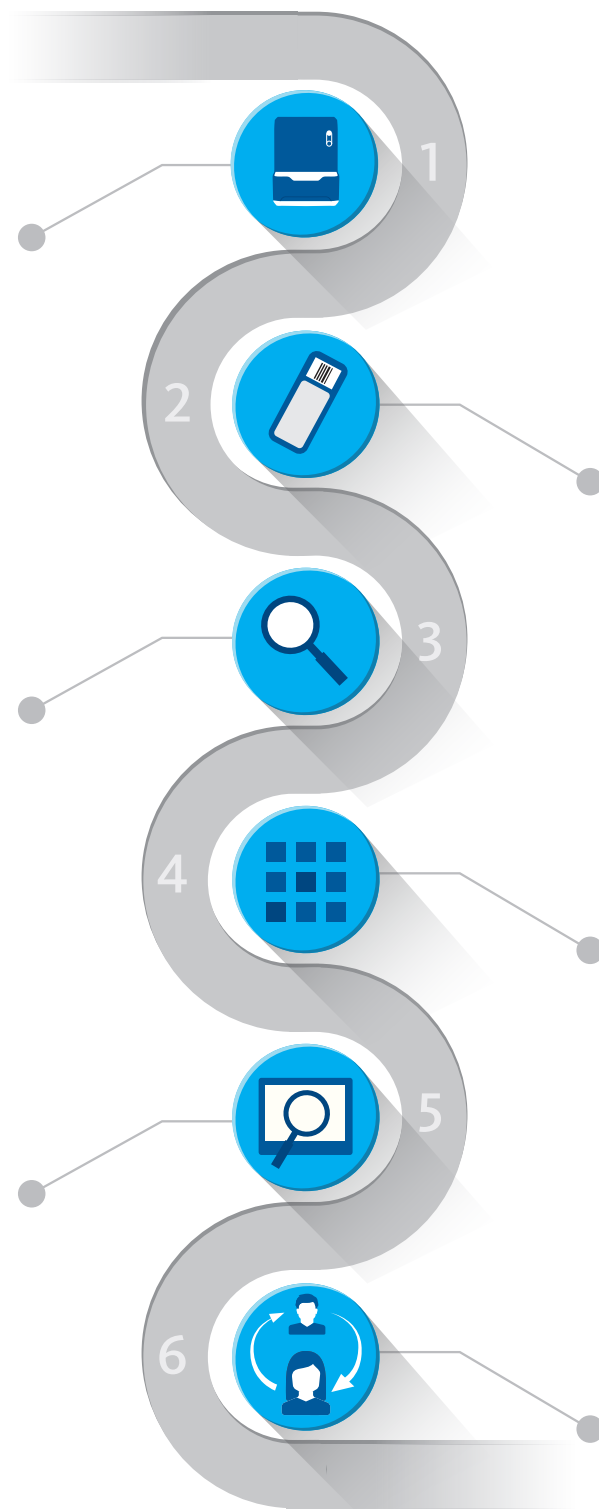
A barcoded slide is loaded onto the analyzer. The barcode is processed using a handheld scanner or manually entered by the operator. After closing the hatch, the slide is automatically positioned under the microscope.

Pre-classification pre-characterization

The analyzer uses image analysis technology to deliver a pre-classification of WBCs and a pre-characterization of RBC morphology. WBCs are pre-classified into 12 cell types and RBCs are characterized based on six morphological characteristics.

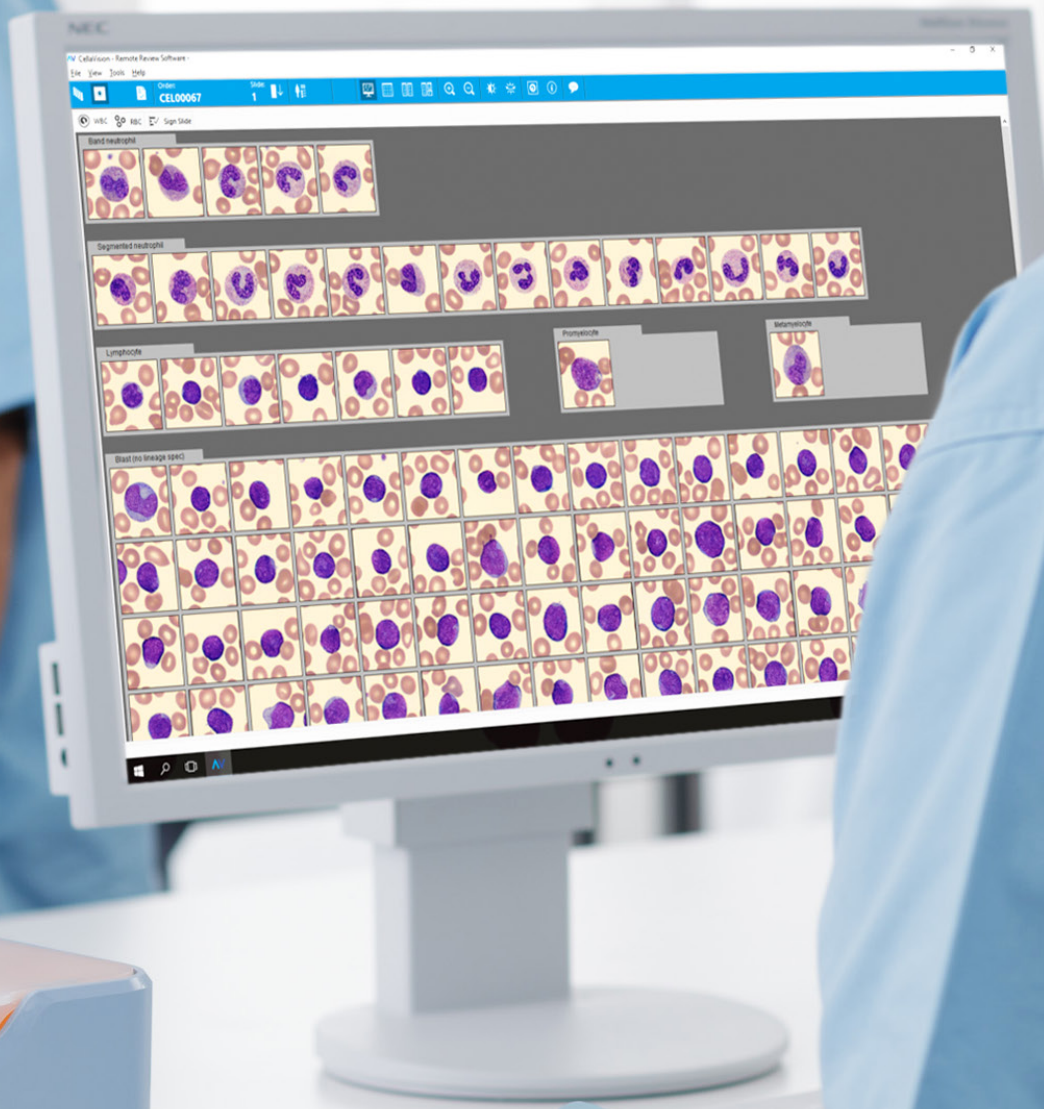
Remote review and verification

Challenging slides needing a second opinion can be accessed and reviewed remotely by colleagues, supervisors or pathologists. Anywhere, anytime.



A standardized approach for morphological assessments

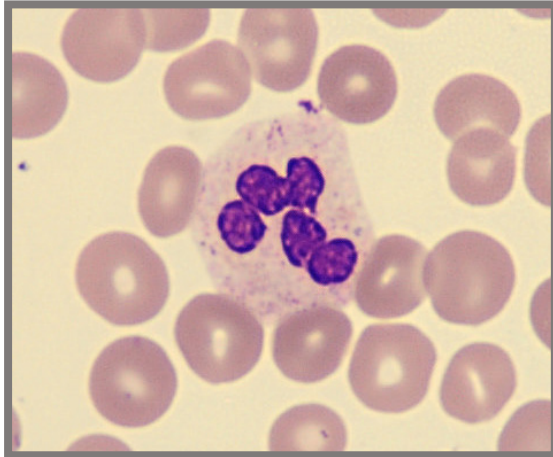
CellaVision DC-1 establishes a more standardized testing process and helps reduce the negative impact of subjective interpretations and assessments. CellaVision software delivers a pre-classification of WBCs and a pre-characterization of RBC morphology - providing the medical technologist with a standardized and reliable decision support framework.



The scope of analysis

White Blood Cells

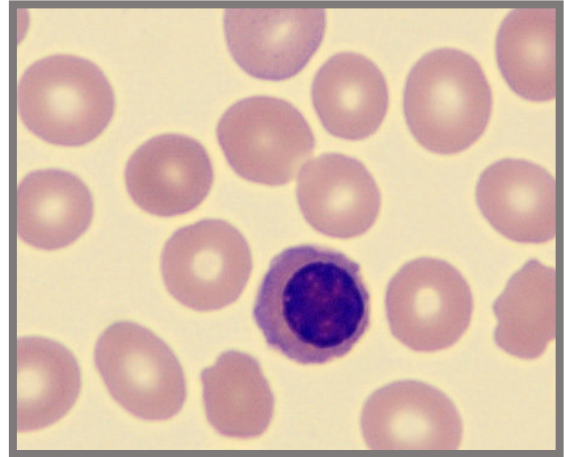
WBCs are pre-classified into 12 cell categories.



- Segmented Neutrophils
- Band Neutrophils
- Eosinophils
- Basophils
- Lymphocytes
- Monocytes
- Blast Cells
- Promyelocytes
- Myelocytes
- Metamyelocytes
- Variant Lymphocytes
- Plasma Cells

Non-WBCs

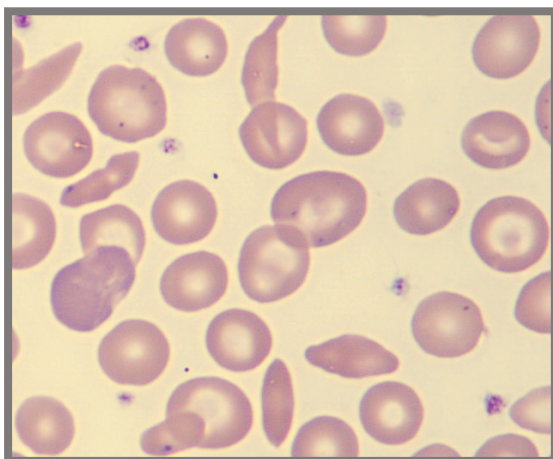
Non-WBCs are pre-classified into five categories.



- Smudge
- Artifacts
- Giant Platelets
- Platelet Clumps
- Nucleated Red Cells

Red Blood Cells

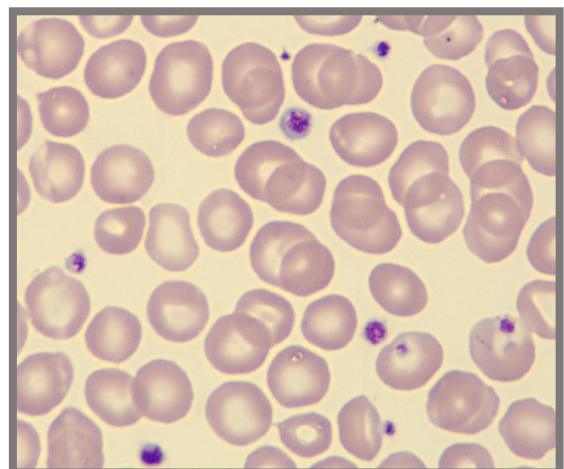
RBCs are pre-characterized based on six morphologies.



- Polychromasia
- Hypochromasia
- Anisocytosis
- Macrocytosis
- Microcytosis
- Poikilocytosis

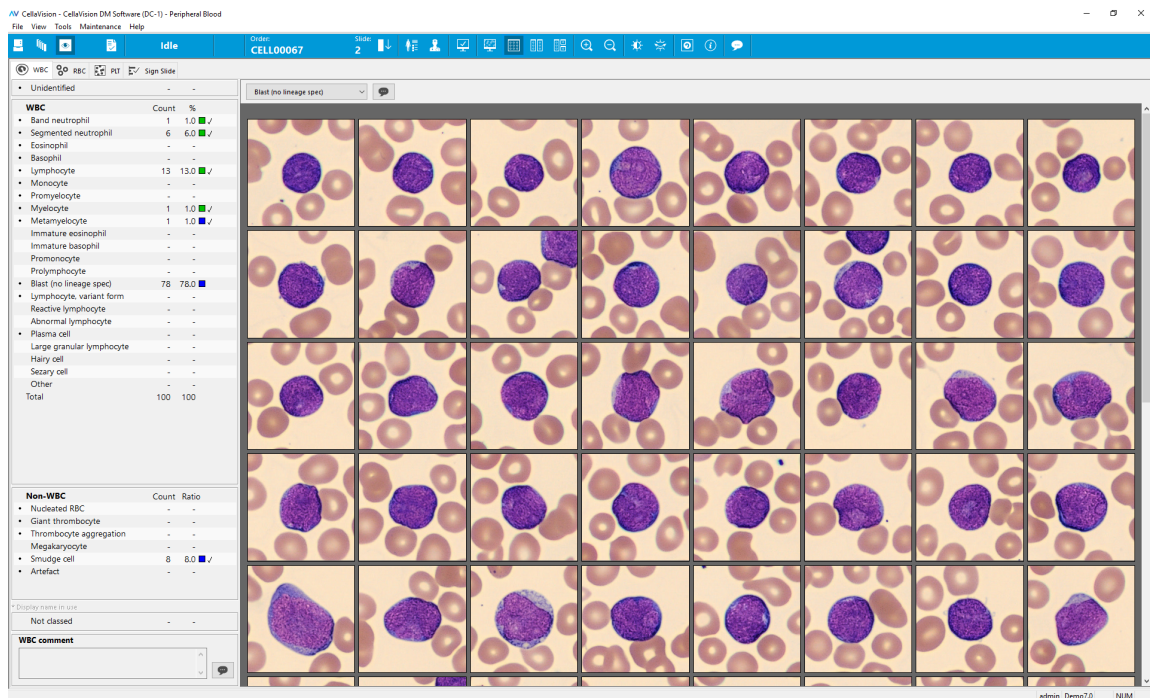
Blood Platelets

The software offers functionality for estimation of blood platelets.

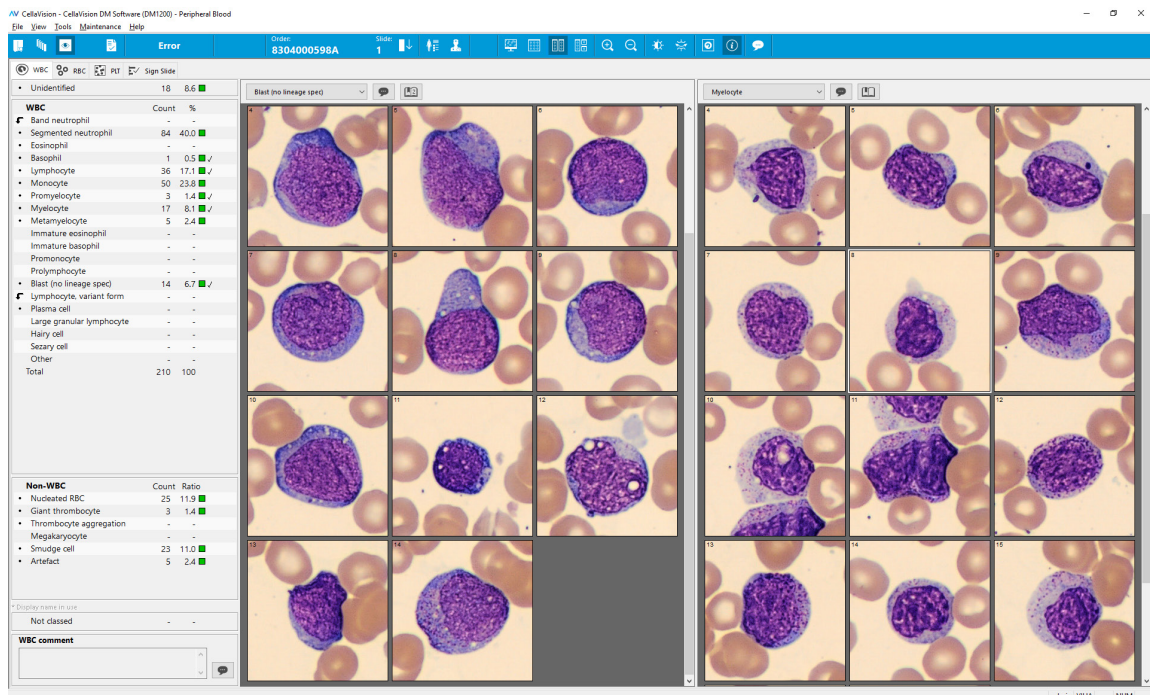


A new perspective on blood cell morphology

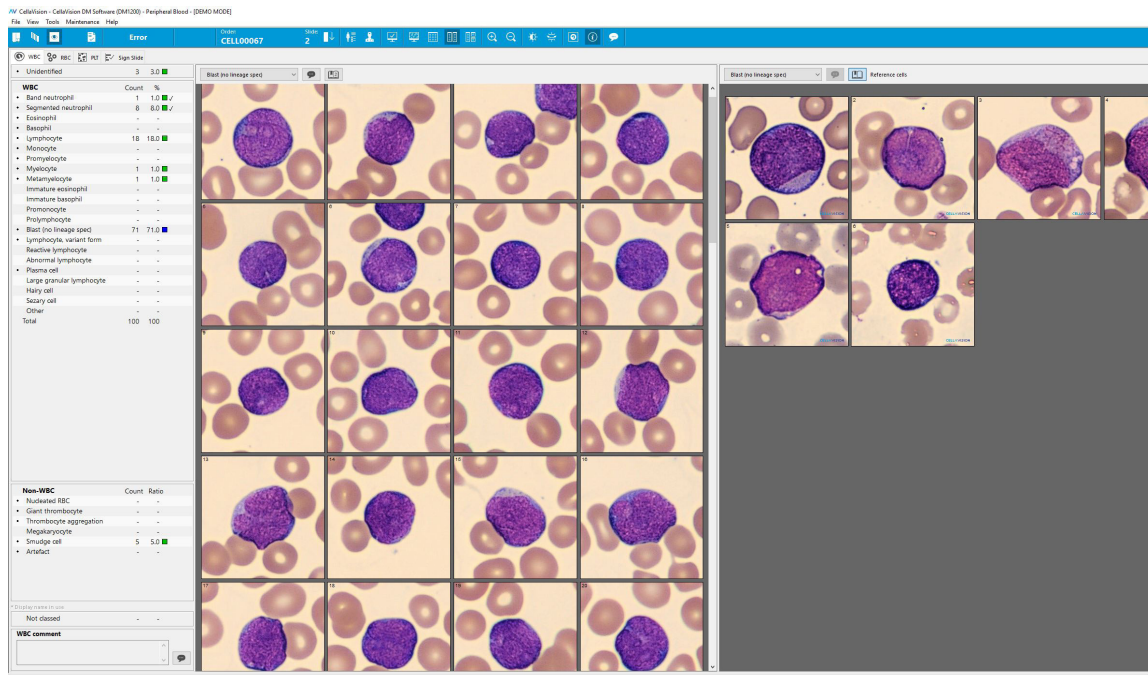
Review all WBCs pre-classified into categories



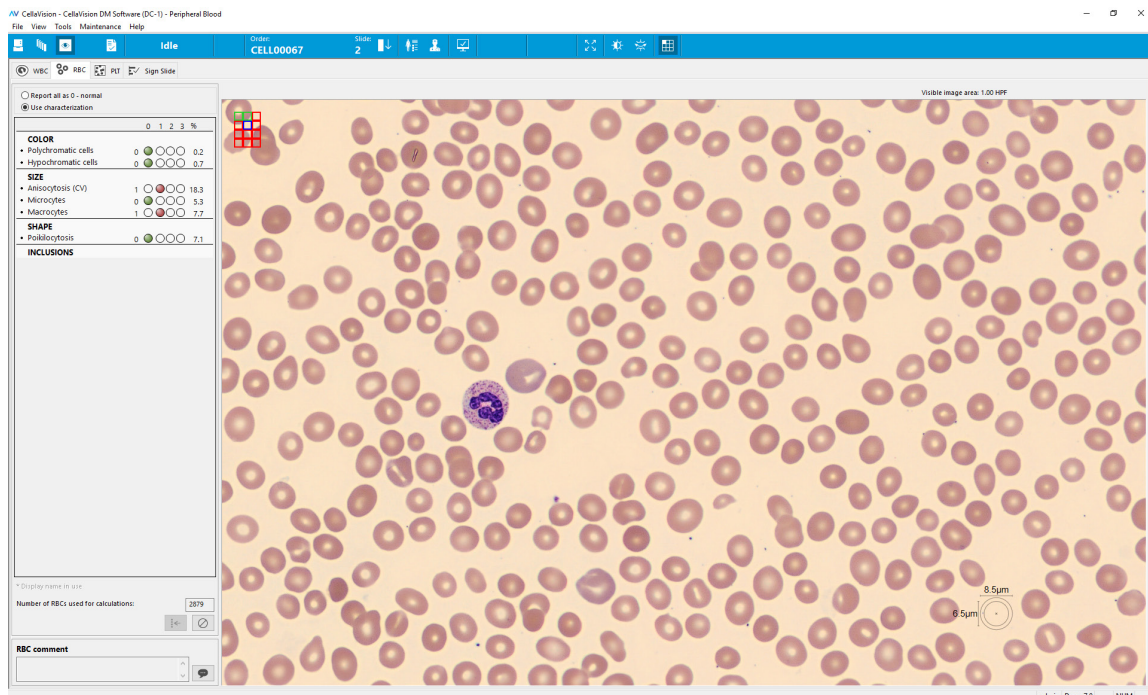
Compare and contrast cell categories side-by-side



Review cells next to reference cell images from a built-in image library

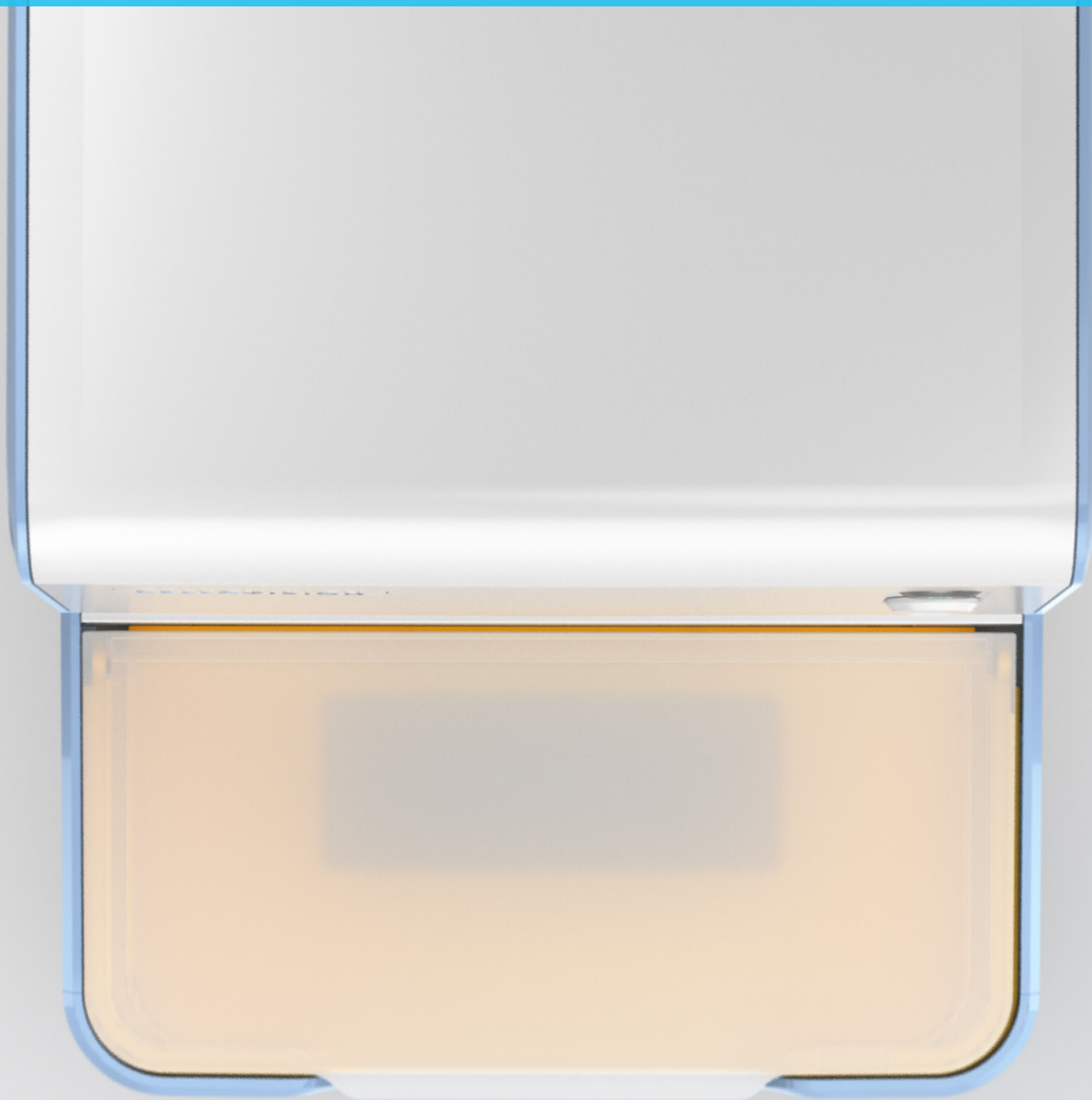


View and grade RBC morphology



CellaVision DC-1 helps you to work smarter and perform better

Our methodology offers your lab four principal benefits; the improved **EFFICIENCY** that comes with automating manual processes, enhanced **QUALITY** of results by promoting consistency and standardization; improved **CONNECTIVITY** that facilitates remote collaboration and consultation; and a general advancement of your staff's **PROFICIENCY** in performing cell differentials.

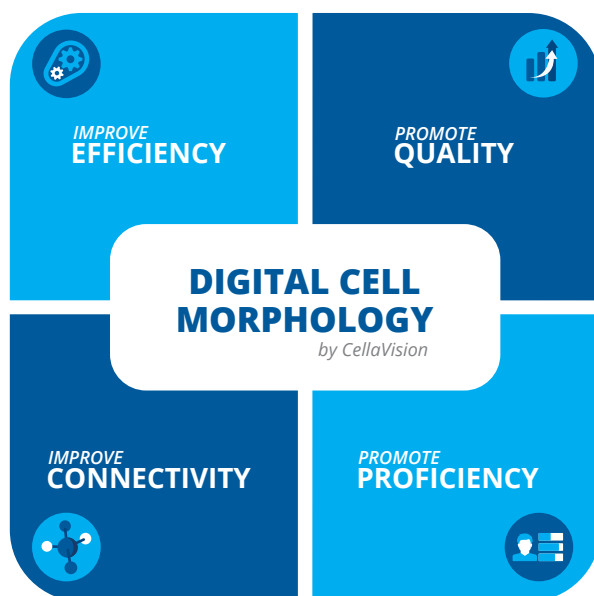


Improve EFFICIENCY

When performing cell differentials using manual microscopy, there are several sub-processes that take up valuable technologist time. Using the CellaVision DC-1 analyzer that automatically locates, digitally captures, pre-classifies and presents cells for review on-screen, it's possible to reduce both sample review and turnaround time.

Promote QUALITY

The CellaVision DC-1 analyzer establishes a standardized testing process that enables small labs to perform blood differentials with consistent accuracy and reliability. The pre-classification delivered by the analyzer provides the medical technologist with a standardized and reliable decision support framework that actively promotes quality. Testing quality is further enhanced by enabling collaboration with off-site colleagues, supervisors and pathologists.



Improve CONNECTIVITY

By implementing CellaVision's digital methodology, small labs can connect the process of performing cell differentials with the outside world. With CellaVision, technologists can collaborate with off-site colleagues, supervisors and morphology experts and challenging slides needing a second opinion can be reviewed by a pathologist in minutes.

Promote PROFICIENCY

The CellaVision way of working promotes proficiency and competency by providing the medical technologist with reference cell images, by presenting cells side-by-side in complete groups, and by establishing a collaborative environment where technologists learn from real-time consultation with more experienced colleagues, supervisors and pathologists based off-site.

Implementation routes

The CellaVision DC-1 analyzer is developed to support multiple implementation approaches

Small Laboratory Workflow Improvement

CellaVision DC-1 can be implemented in a small autonomous lab wanting to modernize and improve the process of performing blood cell differentials. The adaptation of CellaVision's digital methodology saves time and makes it possible to set up new process support mechanisms, such as an escalation process for difficult cases using external pathology services.

Streamline Laboratory Workflow Across Networks

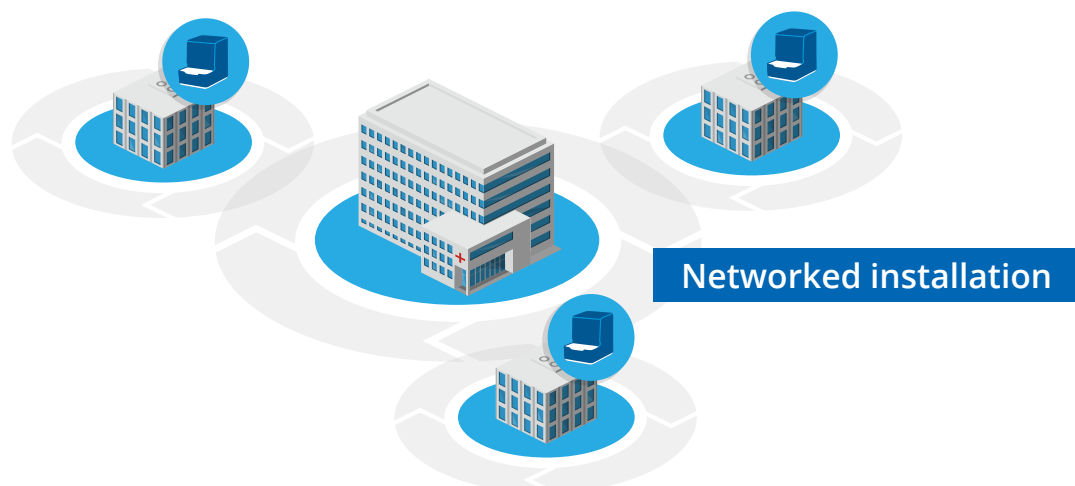
CellaVision DC-1 can also be implemented in a small lab that's part of an Integrated Health Network; making it possible to pursue one, or a combination, of the below workflow principles.

Small Lab Review

Slides are processed and reviewed at the small lab, but challenging slides can be referred for pathology review at the network's core site. In such a workflow, CellaVision technology makes it possible to realize considerable time savings as it effectively removes the primary cause of prolonged turn-around times – the road-based transportation of slides between sites.

Core Lab Review

Slides are processed in the small lab, but the actual reviews are performed by a team of skilled technologists based at a specialist site within the network. In such a scenario, CellaVision DC-1 can reduce the number of staff at a network's smaller site.



Technical Specification: CellaVision DC-1

SLIDE HANDLING

- Accepts slides with ground edges, clipped, round or square corners
- Order ID for slides entered either manually or using an optional barcode reader
- Slides are loaded one slide at a time
- Analyzes slides with blood smears

IMMERSION OIL

Manual oil dispensing

QUALITY CONTROL

- Cell location accuracy test for the verification of the hardware and stain quality
- Built-in smear check

ARCHIVING OF RESULTS AND IMAGES

Utilizing LAN

STORAGE CAPACITY

- Primary storage: On local hard drive up to 1,500 slides (20 GB)
- Secondary storage: Unlimited when transferred to external storage media

PRINTER SUPPORT

Laser/ inkjet printers supported by Windows®

COMMUNICATIONS

- Bi-directional LIS support, ASTM
- Ethernet 10/100 Mbps
- Multiple CellaVision® DM/DC analyzers and Sysmex DI-60 can share a database

SYSTEM COMPONENTS

- Slide Scanning Unit with integrated PC and Windows 10 embedded
- CellaVision® DM Software

ELECTRONICAL SPECIFICATIONS

Analyzer

- Voltage input 12 VDC
- Current input 7 ADC

Power supply

- Voltage input, power supply 100 to 240 V
- Voltage frequency, power supply 50 to 60 Hz
- Current input 1.2 to 0.6 A

SIZE (W X D X H)

- 280 x 390 x 370 mm
- 11.0 x 15.4 x 14.6 inches

WEIGHT

11 kg / 24 lbs

THROUGHPUT

NOTE: Processing time may vary depending on smear quality, WBC concentration and number of non-WBCs.

Up to 10 slides/hour for complete differential (100 WBC+RBC+PLT)

SLIDE PREPARATION METHODS (WEDGED)

- Automated slide makers and stainers
- HemaPrep®/MiniPrep® automated blood smearing device
- Manual smears

STAINS

Romanowsky stains (May-Grünwald Giemsa, Wright-Giemsa, Wright)

OPTIONAL SOFTWARE / APPLICATIONS

- CellaVision® Remote Review Software
- CellaVision® Server Software
- CellaVision® Proficiency Software

Technical Specification: CellaVision Remote Review Software

The CellaVision Remote Review Software makes it possible for remote users to access, review and sign-off slides processed on the CellaVision DC-1. By enabling remote access, the software improves communication and collaboration between colleagues and makes it possible for morphology experts to access differentials remotely and provide consultation from anywhere, anytime.

EDITIONS

- Professional Edition: for 1 single user
- Team Edition: for up to 5 concurrent users
- Group Edition: for up to 25 concurrent users
- Enterprise Edition: for up to 75 concurrent users

SUPPORTED PRODUCTS

- CellaVision® DM1200
- CellaVision® DM9600
- DI-60™ Automated Digital Cell Morphology System
- CellaVision DC-1

SUPPORTED APPLICATIONS

- CellaVision® Peripheral Blood Application
- CellaVision® Advanced RBC Application
- CellaVision® Body Fluid Application

PROFESSIONAL EDITION - PC SPECIFICATIONS

- Windows 10 (64 bit), Windows 8.1
- Hardware configuration according to the recommended system specification for the Windows software
- 1 GB RAM or more
- 256 MB graphics RAM (preferably separate graphics adapter)
- 1 GB free disk space for the Remote Review Software
- Free USB port for hardware license key
- CD/DVD reader
- Minimum monitor resolution: 1280 x 1024

TEAM/GROUP/ENTERPRISE EDITIONS - SERVER SPECIFICATIONS

- Windows Server 2016, Windows Server 2012
- Citrix XenApp 6/6.5/7.x (Citrix ready certified)
- VMware compatible
- Virtual and physical server supported
- Hardware configuration according to the recommended system specification for the Windows Server Software
- 1 GB free disk space for the Remote Review Software
- Minimum monitor resolution: 1280 x 1024

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