WASPLab™

AUTOMATED SPECIMEN PROCESSING AND DIGITAL BACTERIOLOGY

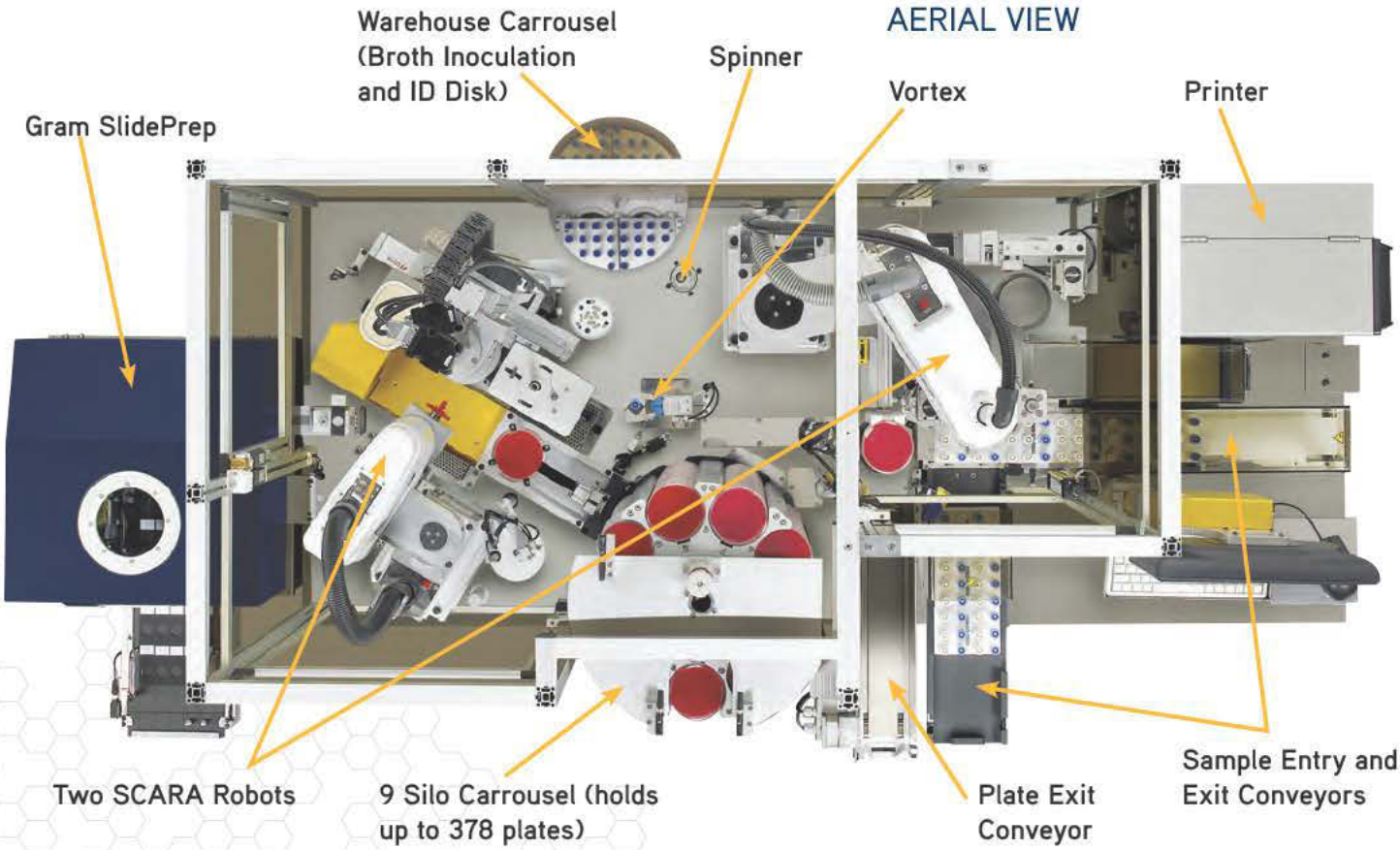
COPAN

Innovating Together™

WASP®

WALK-AWAY SPECIMEN PROCESSOR

AERIAL VIEW



WASP®: WALK-AWAY SPECIMEN PROCESSOR

Provides a total solution for pre-analytical Microbiology specimen processing. WASP® is the only instrument on the market that addresses all aspects of automated Microbiology specimen processing: planting and streaking, Gram slide preparation, enrichment broth inoculation and ID disk application, just to name a few.

WASP® IS THE PILLAR FOR WASPLAB™

WASP® ADVANTAGE

- WASP® uses traditional metal loops ranging in size from 1 µL, 10 µL and 30µl allowing users to plant a variety of samples, sterilizing between quadrants if needed for optimal colony isolation.
- Automatic Gram slide preparation including permanent inkjet slide labeling directly onto the glass.
- Automatic broth inoculation and labeling of tubes: No manual pre-labeling required.
- Automatic Kirby Bauer and ID Disk Application.
- Reduce repetitive stress: WASP® automatically opens and closes any specimen container type.
- Manage all specimen types without batching: Continuous feeding of any sample type and automatic loop and tool change station means longer walk away time and less user intervention.
- No cross-sample contamination: WASP® processes samples individually, no racks or open containers.
- Classic streaking patterns with reusable loops: No staff retraining.
- Real Time Image Analysis of the loop guarantees the delivery of sample onto culture plate and integrity and accuracy of the loop.

FROM FRONT END ROBOTIC SPECIMEN PROCESSING TO FULL LAB AUTOMATION AND DIGITAL REPORTING:

WASPLAB™, A SOPHISTICATED BARCODE DRIVEN MICROBIOLOGY SPECIMEN PROCESSOR AND WORKUP SYSTEM,

connects with trusted WASP® using a conveyor track. WASPLab™ moves any sample from front end processing to full specimen management, automated incubation, and digital microbiology. The modular design and small footprint allow you to customize WASPLab™ for your unique lab needs. The robotic plate management system, smart incubators, and state-of-the-art image acquisition technology, are changing how labs work and leading the way to groundbreaking digital Microbiology.

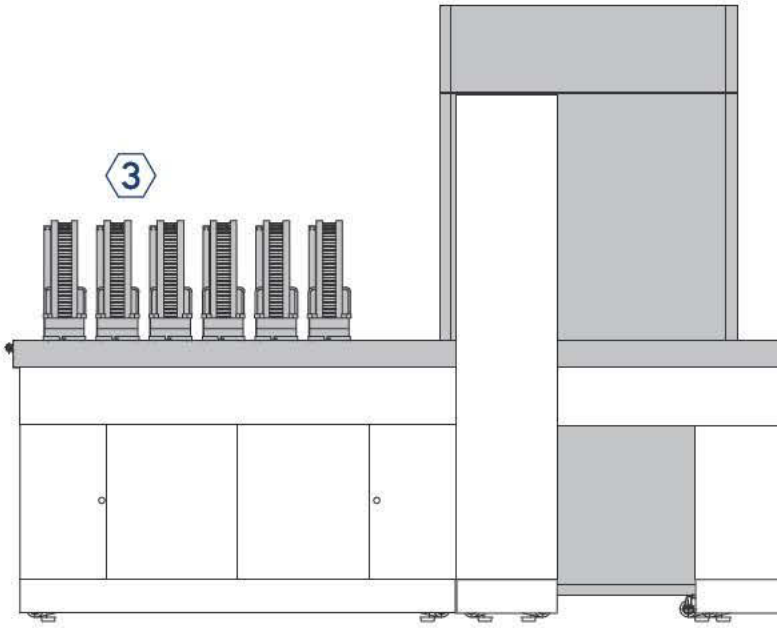
WASPLAB™ TAKES YOU THERE!

SMALL FOOTPRINT • HIGH EFFICIENCY
MODULAR • SCALABLE • AFFORDABLE

WASPLAB™ COMPONENTS

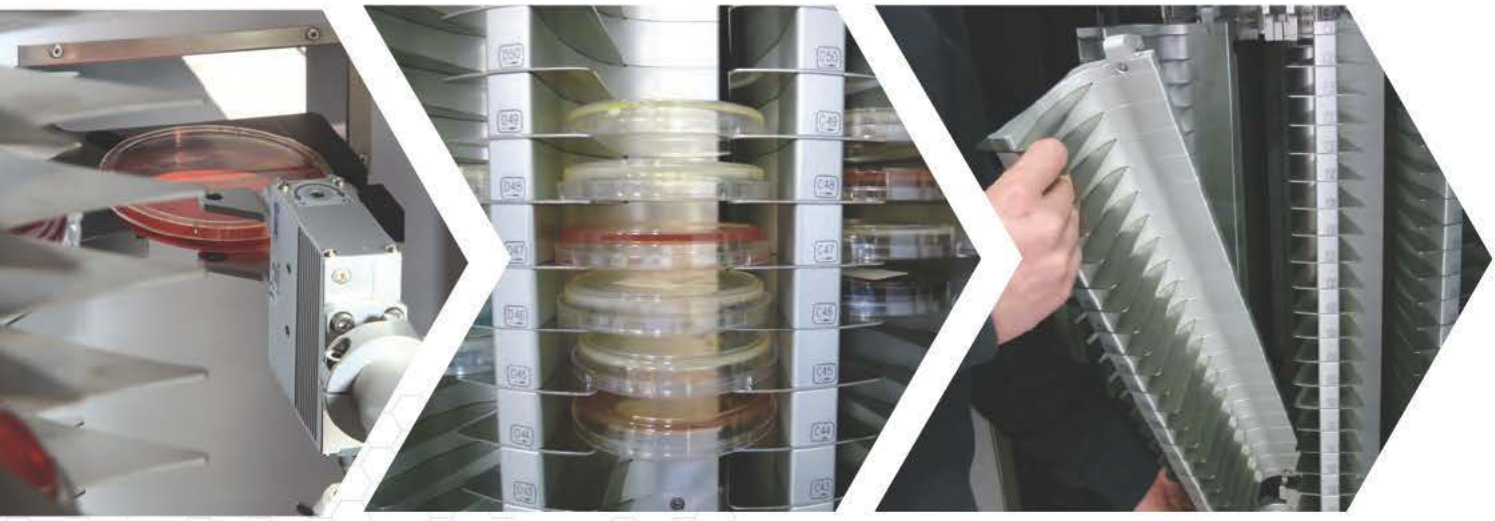
1. WASP® Instrument
2. Double Incubator for 1,760 Plates
3. Single Incubator for 880 Plates
4. Image Acquisition Station
5. Workup Canisters for Culture Plates

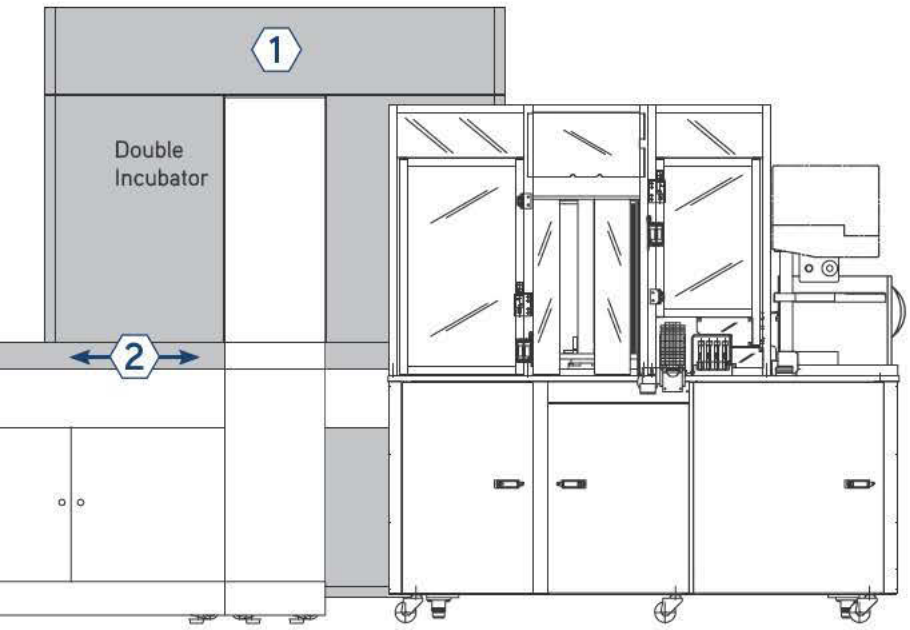
WASPLab™



1. COMPACT, HIGH EFFICIENCY SMART INCUBATORS

- Smart incubators automatically invert each plate prior to incubation preventing condensation from falling onto the media.
- Every plate is assigned a unique location, based on barcode, allowing for random and rapid retrieval.
- Incubator shelves ensure homogeneous environmental conditions and good thermal conductivity to bring plates up to the appropriate temperature and atmospheric conditions quickly and efficiently.
- Compact incubator shelves are easily removed and autoclaved to maintain the most sanitary conditions. **Easy to clean!**
- Single incubators hold 880 plates and double incubators hold 1,760 plates.





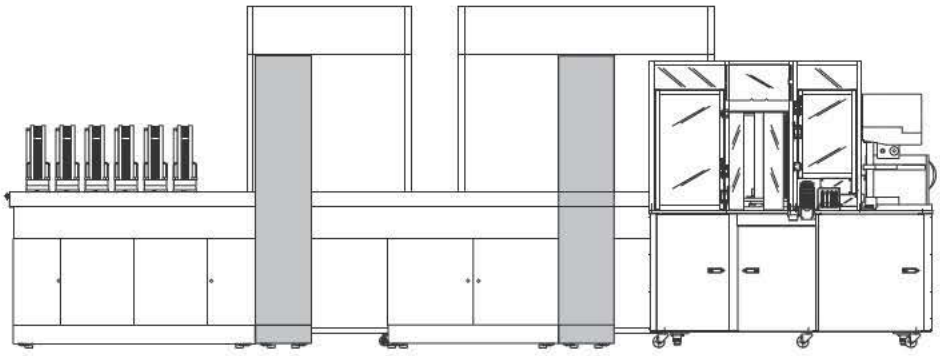
2. CUSTOM TRACK SYSTEM ENSURES FLEXIBILITY AND A SMALL FOOTPRINT

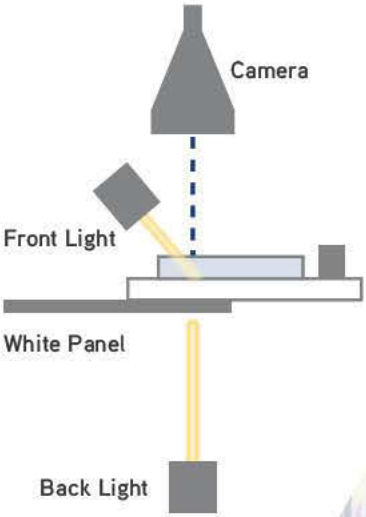
WASPLab™ is customized for each lab, using flexible conveyors that are designed to fit any lab, regardless of space restrictions: No need to demolish your current laboratory space.

3. SCALABLE WORKUP CANISTER SYSTEM

- Plates are automatically sent from incubators into easy-to-remove canisters for further work up at the direction of laboratory staff reading digital results.
- WASPLab™ offers the convenience of any number of in-line Workup Canisters, which can be designated for a particular specimen type or for a specific operator for efficient workflow.
- The canister system gives labs the flexibility to grow and add more stations without having to add additional conveyor track.

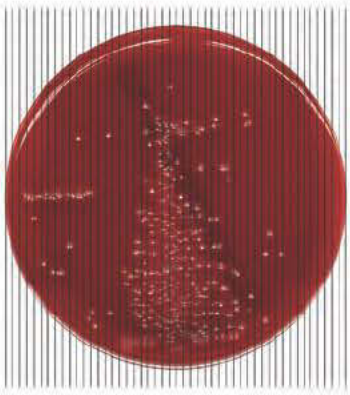
THE WASPLAB™ IMAGE ACQUISITION TECHNOLOGY uses a highly sophisticated lighting and camera system so that each plate photo is so clear and accurate that it's like using a plate microscope with every plate, allowing you to make the most accurate decision on work up steps.





COMPOSITE IMAGE

The WASPLab™ Trilinear Camera sensor acquires the image of the culture plate slice by slice, or line by line as the plate sweeps laterally beneath the camera in the plate shuttle carrier. Four thousand slices are captured and merged together to form a single 27 megapixel image of the 100mm plate. This is done up to three times with different lightning configurations depending on the culture medium type.

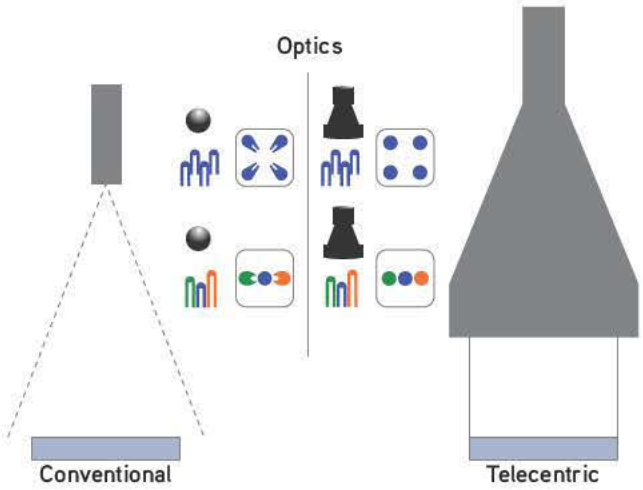


THREE LIGHTING SYSTEMS TO COLLECT OPTIMAL PLATE IMAGES

Not all plated media is the same. The WASPLab™ Image Acquisition system uses different lighting for photography depending on the media color or opacity.

- Front light illuminating the surface of the plate with a white background underneath the plate
- Front light illuminating the surface of the plate with a black background underneath the plate
- Front light illuminating the surface of the plate together with back light transmitting light

IN A DIGITAL AGE



through the bottom of the plate

UNDISTORTED IMAGE ACQUISITION

WASPLab™ uses Telecentric camera optics and software which are critical when inspecting three-dimensional objects where image size and shape accuracy are critical. A Telecentric lens uses constant magnification; eliminating perspective angle error, so that the image on the screen is true to life with no distortion. This important feature enables the precise location and picking of colonies using the original image: no need to re-scan.

27 MEGAPIXEL, LARGER THAN LIFE IMAGES

Plate photos taken with WASPLab™ Image Acquisition cameras are so sharp that only a plate microscope can boast such high resolution and clarity.

Each photo is 27 Megapixels, comprising of layered red, green and blue colors creating a bright vivid image. The WASPLab™ camera can detect and differentiate colonies as small as 0.1 mm in diameter.

In addition to the sharpest image in the industry, the WASPLab™ camera optics have an enormous 9mm depth of field, ensuring that both small, low colonies and large, high colonies are always in focus, so you'll never miss discrete growth of a pathogen.

UNIQUE COMPARATIVE DIFFERENTIAL IMAGE ANALYSIS FOR THE MOST PRECISE READING

A time zero reading of every culture plate is recorded in order to identify and eliminate any artifacts associated with each media plate which are not due to an organism's growth. This includes plate precipitates or specimen deposits in the primary or secondary quadrant streaks.

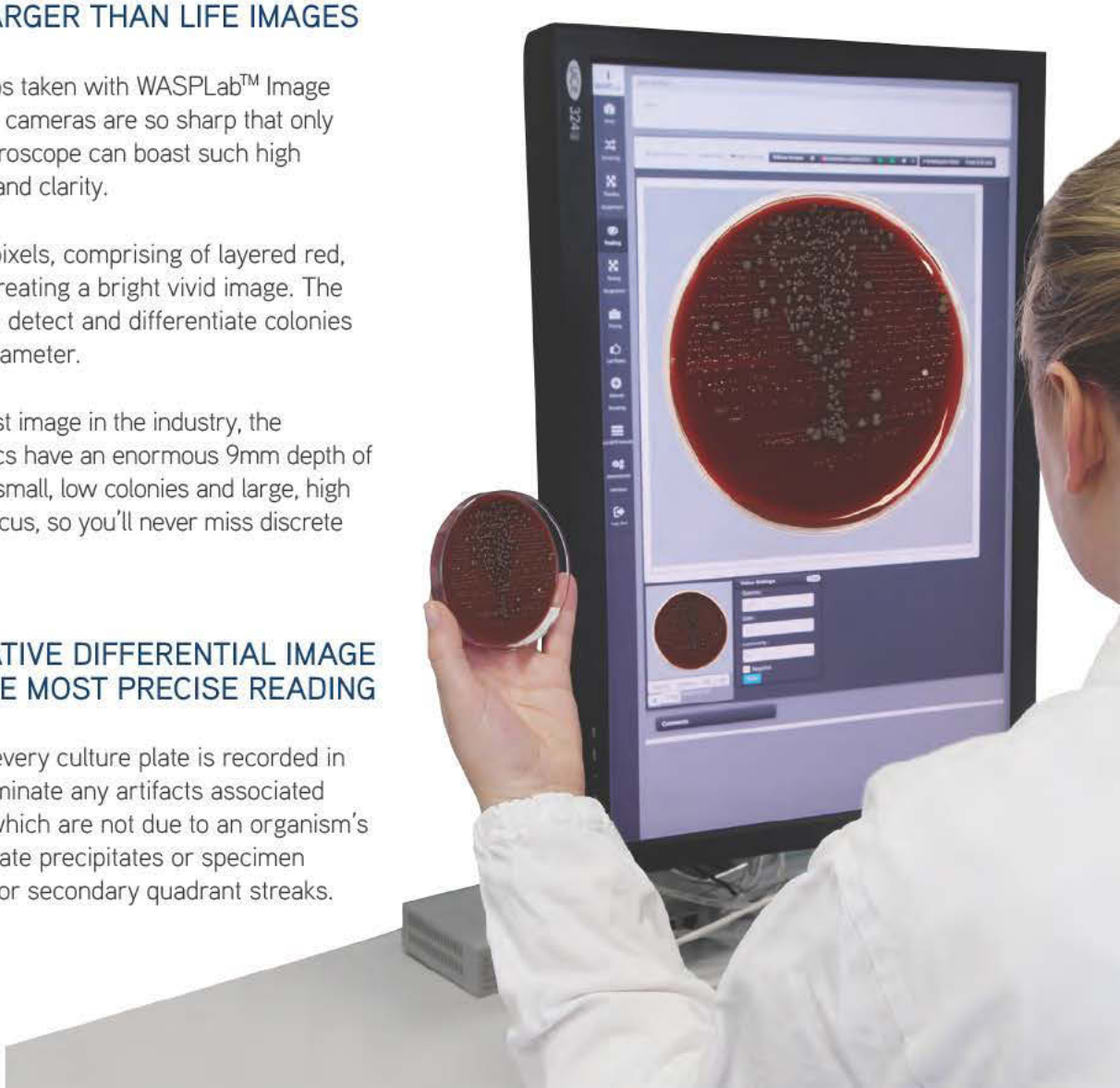
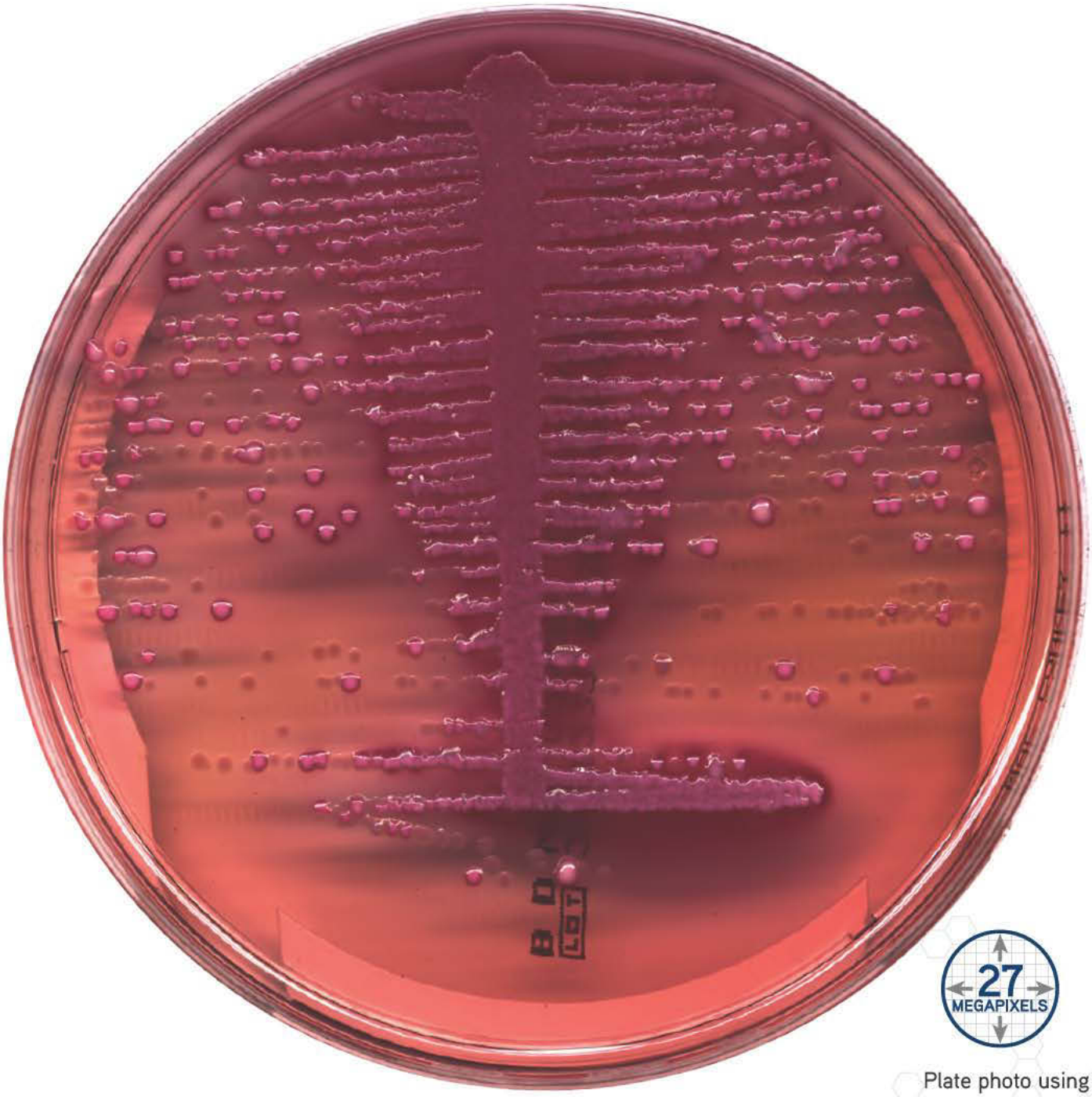


Plate photo taken with professional Nikon D300S in raw format processed and cropped to 4200px by 3900px @ 300DPI for a image file size of 49.3MB.

THE NAKED EYE



27 MEGAPIXELS

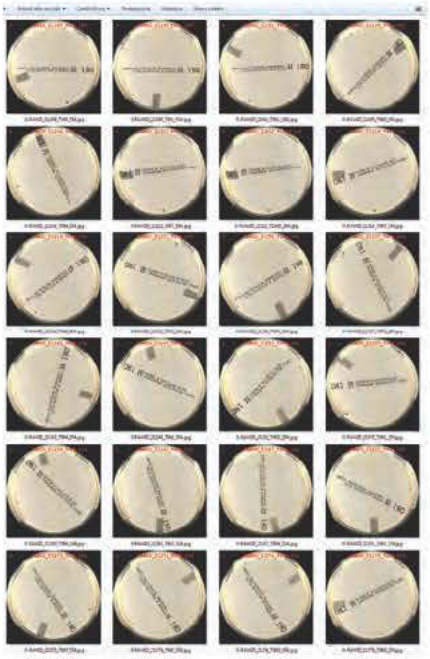
Plate photo using WASPLab™ Trilinear Camera, Telecentric Optics, 27 megapixel plate image

URINE CULTURE RAPID INTERPRETATION ASSISTED BY IMAGE ANALYSIS

WASPLAB'S 27 MEGAPIXEL IMAGE ACQUISITION CAPABILITY enables sophisticated image analysis to be performed, speeding up urine culture interpretation. Using Comparative Differential Image Analysis, the software algorithm compares plate images at time zero and any growth present at the scheduled incubation time interval to actively assess the colony count. Urine cultures are then pre-sorted using user defined CFU count categories and presented in waves to the reader.

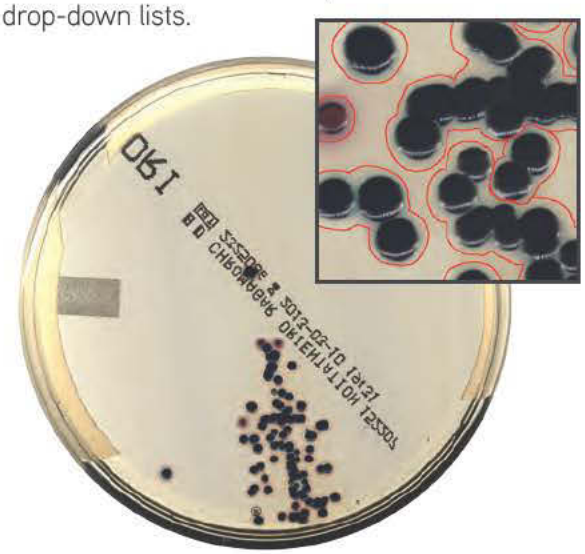
AUTOMATIC SORTING OF CULTURES

WASPLab™ groups the cultures in sets of 24 individual specimen plates and presents them to the operator for review. Cultures with no growth, no significant growth or skin contaminants can be rapidly resulted, after the operator reviews them in the screening process, with **JUST ONE CLICK!**

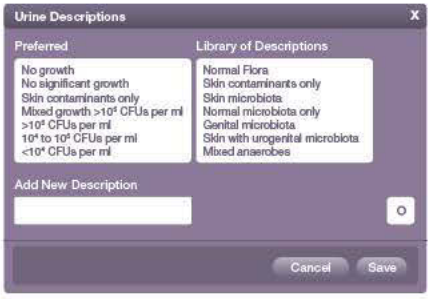


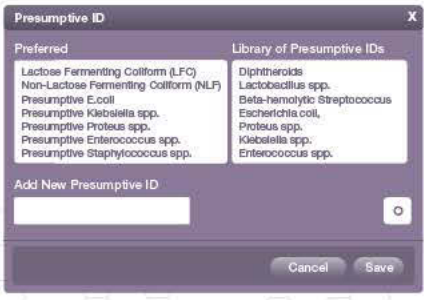
COLONY COUNTING

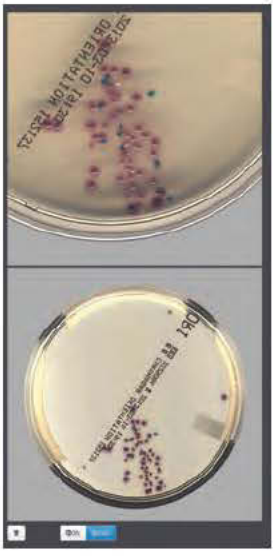
During the reading, operators can easily select colonies for further work up using presumptive ID and CFU count from the pre-determined drop-down lists.



Example of WASPLab™ user defined drop-down menus which allow Microbiologists to select from a list of reporting descriptions which can match LIS reporting criteria.







SMART ZOOM

The WASPLab™ Smart Zooming System allows the operator to zoom in on plates during the screening phase in order to decide whether a particular plate needs to be sent for further scrutiny or work up in the reading program.

WASPLAB™ STREAMLINES AND SIMPLIFIES URINE CULTURE PROCESSING WORKFLOW AND REDUCES TIME TO REPORTING!

1. Using WASPLab™ advanced colony count estimation software, urine plates are pre-sorted based upon pre-determined CFU counts.

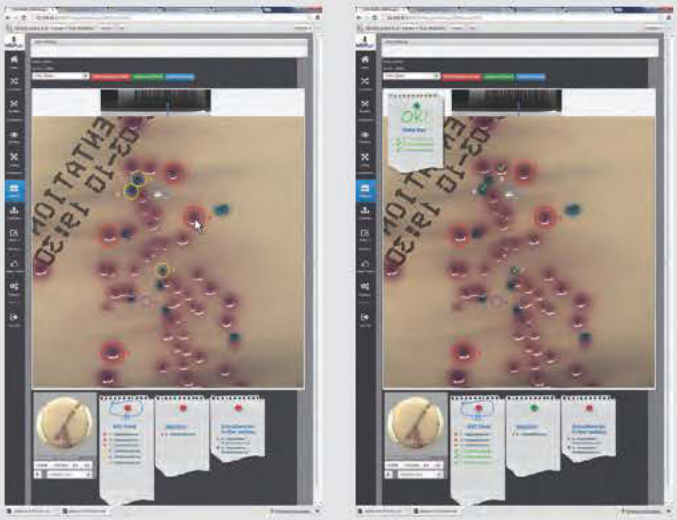
2. Plates are presented in waves of 24 plates per screen.

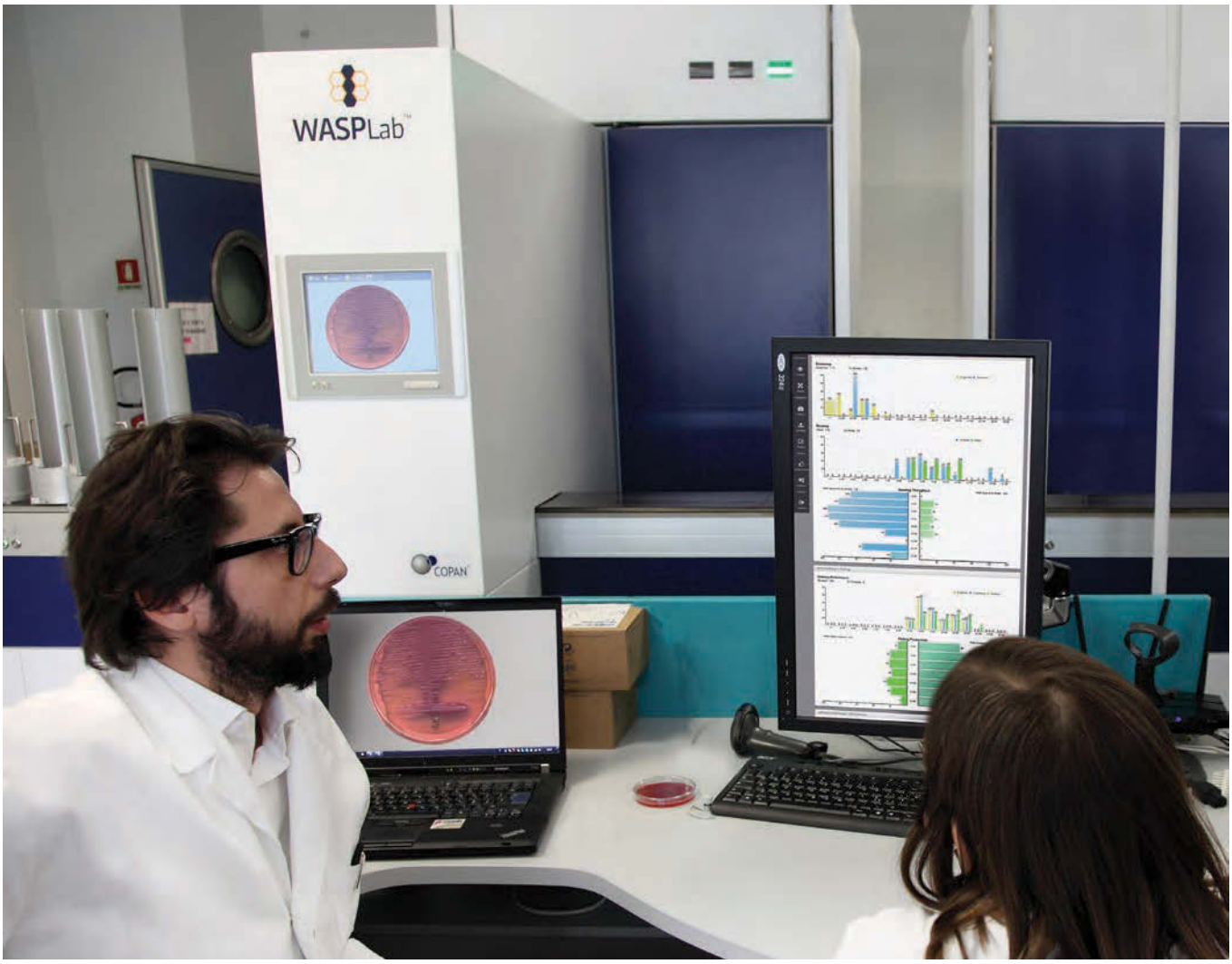
3. No growths are resulted immediately with **JUST ONE CLICK**, and all other cultures are sent to the reading bench.

4. Users can now zoom in on the Screening Page to scrutinize growth patterns and quickly discard insignificant cultures without forwarding culture plates to the reading bench. Operators can easily result no significant growths and skin contaminants improving TAT.

5. Operators can easily zoom in and POINT, CLICK, and ORDER the work up. It's that EASY!

6. Pickers review the Workup Ticket for each culture plate and when a task is completed, the circle disappears and is replaced by a green checkmark over the tagged colony.





EASY TO READ DIGITAL DASHBOARDS PROVIDE INSTANT VISIBILITY OF LAB PERFORMANCE

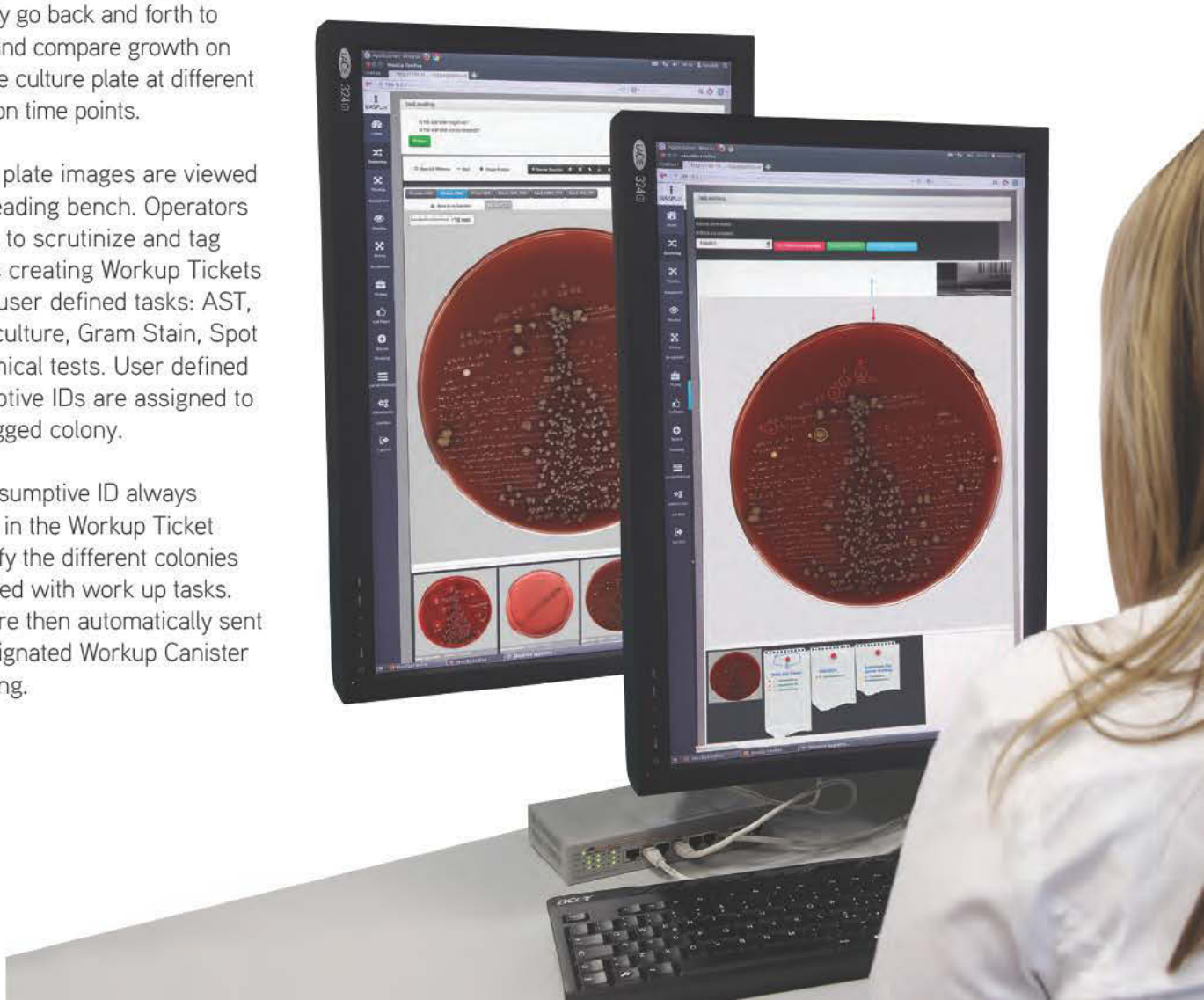
- Individual dashboards show the operator the workload for the shift: what has been done and what needs to be done.
- Administrator dashboards provide real time snapshots of the laboratory workload and allow managers to reallocate the workload to prevent bottlenecks.
- Key performance indicators and efficiency levels can be easily measured using the dashboards.

READ, PICK, AND REPORT

- Incubation protocols can be set to scan and automatically record growth as often as needed.
- Early scans of sterile body or joint fluids, such as Pleural Fluid or Synovial, facilitate detection of positive growth and early intervention in patient treatment.
- Precision scanning allows laboratories to validate the first incubation reading for as little as 6 hours up to 24 hours.
- When screening culture plates the operator can use the toggle buttons to quickly go back and forth to review and compare growth on the same culture plate at different incubation time points.
- Optimal plate images are viewed in the reading bench. Operators zoom in to scrutinize and tag colonies creating Workup Tickets for any user defined tasks: AST, ID, Subculture, Gram Stain, Spot Biochemical tests. User defined presumptive IDs are assigned to each tagged colony.
- The Presumptive ID always appears in the Workup Ticket to identify the different colonies associated with work up tasks. Plates are then automatically sent to a designated Workup Canister for picking.
- Picking can be done anywhere in the lab. After scanning the barcode, a plate image is automatically loaded with all digitally tagged colonies, highlighted.
- After picking is complete, operators acknowledge that they have completed the work ticket task, and close out the process.

FACILITATE THE EARLIEST DETECTION OF GROWTH OR POSITIVE CULTURES

0 hours | 6 hours | 9 hours | 12 hours | 16 hours



WASPLab™

THE CENTERPIECE OF YOUR FULL LABORATORY AUTOMATION SOLUTION

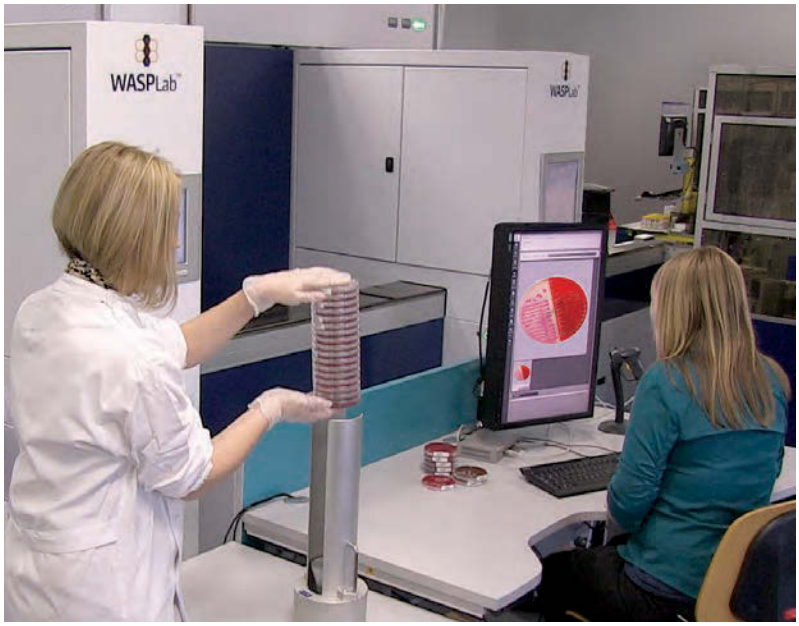
SYNAPSEPro™

MULTIVENDOR INDEPENDENT WORKSPACE

MIDDLEWARE FULLY INTEGRATES WASPLAB™ WITH
ANY LABORATORY EQUIPMENT AND ANALYZERS

READ, TAG AND SHARE DATA AND IMAGES: WASPLAB™ IS AT THE CENTER OF YOUR LAB

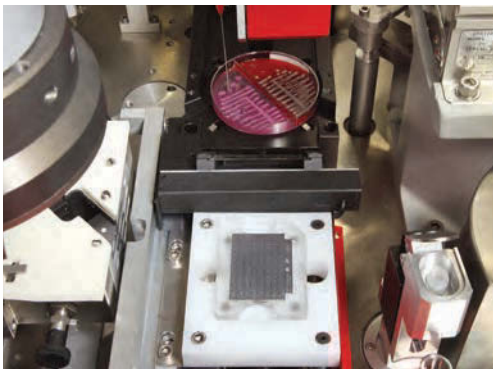
WASPLAB™ AND SYNAPSEPRO MULTIVENDOR INDEPENDENT WORKSPACE are open platforms designed to be fully networked within the laboratory enabling images and data to be transmitted and shared with the LIS and any third party instrument.



- Plates that have colonies digitally tagged for work up are automatically removed from the incubator and sent to a designated Workup Canister.
- Technologists collect their Workup Canisters and proceeds to perform additional tests requested on each plate culture, which can include Gram staining, Spot Biochemical Tests, a full organism identification (ID) test panel or antibiotic susceptibility (AST) test panel.
- At any work bench, the technologist simply scans a culture plate barcode and immediately an image of that plate appears on the screen. The image displays previously digitally tagged colonies and open Workup Tickets.

WORK UP EXAMPLE: MALDI-TOF TARGET PLATE PREPARATION USING RFID TECHNOLOGY TO TRACE THE PLATE AND COLONIES CHOSEN FOR IDENTIFICATION

Information from seeded target plate spots is transmitted directly to the MALDI-TOF instrument for complete traceability with no transcription or transposition errors!



AUTOMATIC PREPARATION: Using the WASP's MALDIPrep application, operators simply load plates into the WASP®. Colonies are picked, target plates seeded, and matrix applied.

MANUAL PREPARATION: Using COPAN's laser guided MALDItrace™ seeding station, operators process previously selected colonies for MALDI-TOF identification.

PRODUCT SPECIFICATIONS

WASP®:

Dimensions:	43.5 inches wide x 81.5 inches long x 76 inches high
Weight:	Approximately 1,300 lbs
Input Voltage:	220V, 20Amps
Network Ethernet:	100 MB
Interface:	LIS interface available upon request
Peripherals:	Touch screen monitor, external barcode reader, label printer
Certifications:	CE, UL, CSA
Electrical Receptacle Plug:	HBL2321 250V / 20A (for USA and Canada)

GRAM SLIDEPREP™:

Dimensions:	28 inches wide x 23 inches long x 49.5 inches high
Weight:	Approximately 221 lbs

INCUBATORS:

Dimensions Single:	45.1 inches wide x 33.7 inches long x 91.1 inches high
Dimensions Double:	68.5 inches wide x 33.7 inches long x 91.1 inches high
Weight:	Approximately 1,000 lbs (Single) Approximately 2,000 lbs (Double)
Input Voltage:	220V, 20Amps
Atmospheric Conditions:	CO_2 and Aerobic
Capacity Single:	880 plates
Capacity Double:	1760 plates
Electrical Receptacle Plug:	HBL2321 250V / 20A (for USA and Canada)

COPAN

Innovating Together™

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