

Laboratory automation systems and workcells

<p><i>Part 1 of 12</i></p>	<p>Abbott Diagnostics Bart Cobb bart.cobb@abbott.com 100 Abbott Park Rd., AP6D-LL, Abbott Park, IL 60064 847-937-9509 www.abbottdiagnostics.com</p>	<p>Ai Scientific Daron Green daron.green@aiscientific.com 10-22 Hornibrook Esp., Clontarf, Qld Australia 4019 +61 7 3105 5000 www.aiscientific.com</p>
<p>Name of system/First year installed/No. of 2007 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia</p>	<p>Accelerator APS/2005/22 3/21/1</p>	<p>PathFinder 350S/2007 (release 2008)/— 0/0/1</p>
<p>Automation products that are available</p> <ul style="list-style-type: none"> • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage-retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote sys. monitoring 	<p>yes/yes yes/yes/yes/yes yes/no—/yes yes/yes yes/yes/open yes/no</p>	<p>yes/no yes/yes (possible)/no/no yes/no/no/no yes/yes yes/yes/open yes/no</p>
<p>Software features/functionality</p> <ul style="list-style-type: none"> • Patient demographics & insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats & management reports • Evaluates validity & releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession No. redundancy (duplicate specimen ID) • Supports specimen carrier & level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • Routes test to workstation/Automatic reflex, repeat, dilutions • Supports multiple HW config./Supports other proprietary transport. HW • Sample storage & retrieval SW/Supports approved CLSI standards 	<p>automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/n/a automation SW feature/automation SW feature</p>	<p>LIS feature/automation SW feature automation SW feature/automation SW feature automation SW feature/—/automation SW feature LIS feature automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature — automation SW feature/ automation SW feature LIS feature/LIS feature automation SW feature/LIS feature automation SW feature/automation SW feature automation SW feature/ automation SW feature</p>
<p>LIS(s) & versions interfaced & live w/LAS/How LIS(s) are interfaced w/your LAS</p>	<p>Cerner Classic, Cerner Millenium, Cortex, Delphic, Dianoema, GE Ultra, GLMIS by MIPS, Lab Track, Medisolution by Technidata, Meditech 5.4, Misys, Misys CPR (Cloverleaf Engine), Misys Smart, ModulabGold (Izasa), Omega (Roche), OSM, Roche Omega, SCS, Siemens Bayer, Siemens LMX, Soft/HL7, ASTM</p>	<p>Ultra (iNet and IRIS)/ASTM, HL7</p>
<p>Transportation systems available</p> <ul style="list-style-type: none"> • Model/Dimen.* (H x W x D)/Conforms to CLSI Stand. Auto 1-5 • Containers device accommodates/Avg. throughput in cm per second • Supports automatic rerouting for reflex-repeat-dilutions • Modular HW/Installed options/Device can operate in track & manual mode • Required utilities/Required maintenance • Carrier type/Scalable system 	<p>yes APS track section/40.2 x variable x 17.0 in/yes 16, 13 x 100, 16, 13 x 75, multiple types simultaneously/13 yes yes/floor mounted/yes compressed air, electricity, water/— single specimen container per carrier/yes</p>	<p>yes Open/100 x 40 x 52 cm/yes 16, 13 x 100, 16, 13 x 75/— — no/—/— —/— —/yes</p>
<p>Automated centrifugation available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5 • Maximum throughput/Containers device accommodates • Can identify tube types for custom programmed rate & spin times per run • More than one centrif. can be connected to track system • For multi-unit centrif., each centrif. operates independently for rate & time • Maintenance required <p>Automated input/accessioning available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required <p>Automated decapping available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required • Removes multiple size tube caps per run/ Removes screw type sample caps <p>Automated sorting available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by <p>Specimen integrity monitor available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required <p>Automated aliquotting available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates • Inspects samples for bar code/Detects & reports clots in specimen • Detects & reports quantity not sufficient specimens/Maintenance required 	<p>yes centrifuge module/Hettich/58.5 x 32 x 42 in/yes 320/16, 13x100, 16, 13x75, multiple types simultaneously/weekly, monthly no yes no weekly, monthly yes input output module/54.3 x 77.6 x 39.6 in/yes/300-600 16, 13 x 100, 16, 13 x 75, others/yes 720/weekly, monthly yes decapper module/46.7 x 34.7 x 17 in/yes/300 16, 13 x 100, 16, 13 x 75, multiple types simultaneously/daily, weekly yes/yes yes input output module/54.3 x 77.6 x 39.6 in/yes/300-600 16, 13x100, 16, 13x75, multiple types simult./specimen, method, ouput no — — no — — no — — — — —</p>	<p>no — — — — — yes Pathfinder 350S/100 x 40 x 52 cm/yes/350+ 16, 13 x 100, 16, 13 x 75/yes 250/weekly, quarterly, annually no — — — — yes Pathfinder 350S/100 x 40 x 52 cm/yes/350+ 16, 13 x 100, 16, 13 x 75/specimen, method, output no — — — — —</p>
<p>Instrument (analyzer) interfaces</p> <ul style="list-style-type: none"> • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem <p>Physical/hardware (instrument/specimen) interface</p> <ul style="list-style-type: none"> • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis 	<p>yes yes no/point-of-reference sampling/no point-of-reference sampling/no</p>	<p>yes yes pt.-of-ref. sampling/pt.-of-ref. sampling/pt.-of-ref. sampling pt.-of-ref. sampling/pt.-of-ref. sampling</p>
<p>Instruments to which your system/product is interfaced Other robotic products/components to which system, product is linked</p>	<p>Architect c8000, c16000, i2000, i2000SR, Ortho Fusion 5.1 —</p>	<p>— —</p>
<p>Automated recapper or sealer available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Recaps-seals multiple size tubes simultaneously/Containers device accomm. • Maintenance required 	<p>sealer resealer module/49.2 x 44.9 x 17 in/yes/300 yes/16, 13 x 100, 16, 13 x 75, multiple types simultaneously monthly</p>	<p>no — — —</p>
<p>Automated storage & retrieval available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Connects to the track • Room temperature/Min. & max. No. of tubes stored per module • Multiple size tubes can be stored in the same module/Maintenance required • Refrigerated storage & retrieval capability <p>Longitudinal upgrade pathway or plan to protect users' investments Avg. time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly</p>	<p>yes tube storage module/95 x 89.2 x 70 in/yes/600 16, 13 x 100, 16, 13 x 75, multiple types simultaneously/yes no/0 & 15,360 yes/daily, monthly yes modular open architecture depends on configuration/Abbott Diagnostics/business & extended hours no/yes</p>	<p>yes Pathfinder 350S/100 x 40 x 52 cm/yes/350+ 16, 13 x 100, 16, 13 x 75/yes yes/250 yes/weekly, quarterly, annually no range of products (small benchtop to fully functional) ½ day/Ai Scientific, distributor/daily 8 AM-5 PM no/no</p>
<p>List price Individual list prices for components</p> <ul style="list-style-type: none"> • Process control SW/Transportation systems/Auto. centrifugation • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval • Specimen integrity monitor/Automated aliquot • Instrument (analyzer) interfaces/Automated recap 	<p>varies by configuration — — — —</p>	<p>\$60,000 (Australian dollars) optional extra/—/— included/—/included/included —/— —/—</p>
<p>Distinguishing features</p> <p><i>* For basic building block unit</i> <i>** Average throughput in specimen containers per hr per device</i></p>	<p>more flexibility: component-based design & high level of configurability; full functionality: refrigerated online storage & multiple tube types simultan.; advanced tech.: RFID, point-in-space sampling, heat soldering-resealing</p>	<p>benchtop unit; interchangeable trays allowing 1-minute configuration changes; links with PathFinder 900 for networked disseminated automation</p>

Laboratory automation systems and workcells

<i>Part 2 of 12</i>	Ai Scientific Daron Green daron.green@aiscientific.com 10-22 Hornibrook Esp., Clontarf, Qld Australia 4019 +61 7 3105 5000 www.aiscientific.com	Beckman Coulter Jeff Quint jfquint@beckman.com 200 S. Kraemer Blvd., Brea, CA 92822 714-961-4118 www.beckmancoulter.com
Name of system/First year installed/No. of 2007 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia	PathFinder 900/2007 (release 2008)/1 0/38 (PathFinder MKII)/1 (PathFinder 900), 14 (PathFinder MKII)	AutoMate 800/2006/25 0/45/4
Automation products that are available <ul style="list-style-type: none"> • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage-retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote sys. monitoring 	yes/no yes/yes/no/yes yes/yes/yes/yes yes/yes yes/yes/open yes/no	yes/no yes/no/yes/yes yes/yes/yes/no yes/yes yes/no/open yes/—
Software features/functionality <ul style="list-style-type: none"> • Patient demographics & insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats & management reports • Evaluates validity & releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession No. redundancy (duplicate specimen ID) • Supports specimen carrier & level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • Routes test to workstation/Automatic reflex, repeat, dilutions • Supports multiple HW config./Supports other proprietary transport. HW • Sample storage & retrieval SW/Supports approved CLSI standards 	LIS feature/automation SW feature automation SW feature/automation SW feature automation SW feature/—/automation SW feature LIS feature automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature — automation SW feature/ automation SW feature automation SW feature/ automation SW feature automation SW feature/LIS feature automation SW feature/automation SW feature automation SW feature/ automation SW feature	LIS feature/automation SW feature LIS feature/— automation SW feature/LIS feature/automation SW feature LIS feature automation SW feat./automation SW feat./automation SW feat. automation SW feature automation SW feature automation SW feature automation SW feature/automation SW feature automation SW feature/n/a automation SW feature/n/a automation SW feature/n/a automation SW feature/automation SW feature
LIS(s) & versions interfaced & live w/LAS/How LIS(s) are interfaced w/your LAS	Apollo, Kestral, Ultra (iNet and IRIS)/ASTM, HL7	SCC, Siemens, Philips/ASTM, Power Processor
Transportation systems available <ul style="list-style-type: none"> • Model/Dimen. * (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Containers device accommodates/Avg. throughput in cm per second • Supports automatic rerouting for reflex-repeat-dilutions • Modular HW/Installed options/Device can operate in track & manual mode • Required utilities/Required maintenance • Carrier type/Scalable system 	yes open/1.7 × 2.5 × 1.5 m/yes 16, 13 × 100, 16, 13 × 75/— — no/—/— — —/yes	no — — — — —
Automated centrifugation available <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Maximum throughput/Containers device accommodates • Can identify tube types for custom programmed rate & spin times per run • More than one centrif. can be connected to track system • For multi-unit centrif., each centrif. operates independently for rate & time • Maintenance required Automated input/accessioning available <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required Automated decapping available <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required • Removes multiple size tube caps per run/ Removes screw type sample caps Automated sorting available <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by Specimen integrity monitor available <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required Automated aliquotting available <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates • Inspects samples for bar code/Detects & reports clots in specimen • Detects & reports quantity not sufficient specimens/Maintenance required 	no — — — — — yes Pathfinder 900/1.7 × 1.5 × 2.5 m/yes/900+ 16, 13 × 100, 16, 13 × 75/yes 1,000/daily, weekly, quarterly, annually yes Pathfinder 900/1.7 × 1.5 × 2.5 m/yes/420 16, 13 × 100, 16, 13 × 75/weekly, quarterly, annually yes/yes yes Pathfinder 900/1.7 × 1.5 × 2.5 m/yes/900+ 16, 13 × 100, 16, 13 × 75/specimen, method, output no — — yes Pathfinder 900/1.7 × 1.5 × 2.5 m/yes/900+ 16, 13 × 100, 16, 13 × 75 yes/yes yes/daily, weekly, quarterly, monthly	yes AutoMate 800/—/yes 300/16, 13 × 100, 16, 13 × 75, Sarstedt, Greiner, BD Pediatric tubes no no no daily yes AutoMate 800/—/yes/420 16, 13 × 100, 16, 13 × 75, Sarstedt, Greiner, BD Pediatric tubes/yes 600/daily, monthly yes AutoMate 800/n/a/yes/420 16, 13 × 100, 16, 13 × 75, Sarstedt, Greiner, BD Pediatric/daily, monthly yes/yes yes AutoMate 800/n/a/yes/420 16, 13 × 100, 16, 13 × 75, Sarstedt, Greiner, BD Pediatric/method, output no — — yes AutoMate 800/n/a/yes/420 16, 13 × 100, 16, 13 × 75, Sarstedt yes/yes yes/daily, monthly
Instrument (analyzer) interfaces <ul style="list-style-type: none"> • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem Physical/hardware (instrument/specimen) interface <ul style="list-style-type: none"> • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis 	yes yes pt.-of-ref. sampling/pt.-of-ref. sampling/pt.-of-ref. sampling pt.-of-ref. sampling/pt.-of-ref. sampling	no no —/—/— —/—
Instruments to which your system/product is interfaced Other robotic products/components to which system, product is linked	— —	n/a n/a
Automated recapper or sealer available <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Recaps-seals multiple size tubes simultaneously/Containers device accomm. • Maintenance required 	yes PathFinder 900/1.7 × 1.5 × 2.5 m/yes/420 yes/16, 13 × 100, 16, 13 × 75 weekly, quarterly, annually	no — —
Automated storage & retrieval available <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Connects to the track • Room temperature/Min. & max. No. of tubes stored per module • Multiple size tubes can be stored in the same module/Maintenance required • Refrigerated storage & retrieval capability • Longitudinal upgrade pathway or plan to protect users' investments 	yes Pathfinder 900/1.7 × 1.5 × 2.5 m/yes/900+ 16, 13 × 100, 16, 13 × 75/yes yes/1,000 yes/daily, weekly, quarterly, annually no range of products (small benchtop to fully functional)	yes AutoMate 800/n/a/yes/420 16, 13 × 100, 16, 13 × 75, Sarstedt, Greiner, BD Pediatric tubes/no yes/1 & 400 yes/daily, monthly no —/—
Avg. time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly	3 days/Ai Scientific, distributor/M-F 8 AM-5 PM no/no	7 days/Beckman Coulter/24/7 no/no
List price Individual list prices for components <ul style="list-style-type: none"> • Process control SW/Transportation systems/Auto. centrifugation • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval • Specimen integrity monitor/Automated aliquot • Instrument (analyzer) interfaces/Automated recap 	\$440,000 (Australian dollars) —/—/— —/—/\$440,000 (Australian dollars) —/— —/—	n/a — — — —
Distinguishing features	true modular system built on a common platform; patented cap color recognition and foil capping technology; full functionality with the flexibility to configure to individual requirements within one compact size	automatic rack layout can be reconfigured with another rack style; intelligent aliquotting; sample storage routing by duration and temperature
<i>* For basic building block unit</i> <i>** Average throughput in specimen containers per hr per device</i>		

Laboratory automation systems and workcells

<p><i>Part 3 of 12</i></p>	<p>Beckman Coulter Jeff Quint jfquint@beckman.com 200 S Kraemer Blvd., Brea, CA 92822 714-961-4118 www.beckmancoulter.com</p>	<p>Integrated Laboratory Automation Solutions, Inc. William Neeley, MD wneeleymd@lab-ilas.com 1223 Chicago Rd., Troy, MI 48083 866-825-3477 www.lab-ilas.com</p>
<p>Name of system/First year installed/No. of 2007 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia</p>	<p>Power Processor/1998/51 325/85/68</p>	<p>The Efficiency Series/2003/0 1/—/—</p>
<p>Automation products that are available</p> <ul style="list-style-type: none"> • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage-retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote sys. monitoring 	<p>yes/yes yes/yes/yes/yes yes/yes/yes/yes yes/yes yes/yes/open yes/yes</p>	<p>yes/yes yes/yes/yes/yes yes/yes/yes/yes yes/yes yes/yes/open yes/yes</p>
<p>Software features/functionality</p> <ul style="list-style-type: none"> • Patient demographics & insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats & management reports • Evaluates validity & releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession No. redundancy (duplicate specimen ID) • Supports specimen carrier & level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • Routes test to workstation/Automatic reflex, repeat, dilutions • Supports multiple HW config./Supports other proprietary transport. HW • Sample storage & retrieval SW/Supports approved CLSI standards 	<p>LIS feature/auto SW feature automation SW feature/ automation SW feature automation SW feat./ automation SW feat./ automation SW feat. automation SW feature automation SW feat./ automation SW feat./ automation SW feat. n/a automation SW feature automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/n/a automation SW feature/automation SW feature</p>	<p>LIS feature/automation SW & LIS feature automation SW feature/automation SW feature automation SW feature/LIS feature/automation SW feature automation SW feature automation SW feature/ automation SW feature/ automation SW feature automation SW feature automation SW feature automation SW & LIS feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature</p>
<p>LIS(s) & versions interfaced & live w/LAS/How LIS(s) are interfaced w/your LAS</p>	<p>SCC, Siemens, Philips, Misis, Cerner, McKesson, GE, Mediatech, PerSe, Molis, MIPS, Vista, Swiss Lab/Power Processor, Direct, HL7</p>	<p>Misis (Smart)/direct LIS</p>
<p>Transportation systems available</p> <ul style="list-style-type: none"> • Model/Dimen.* (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Containers device accommodates/Avg. throughput in cm per second • Supports automatic rerouting for reflex-repeat-dilutions • Modular HW/Installed options/Device can operate in track & manual mode • Required utilities/Required maintenance • Carrier type/Scalable system 	<p>yes Power Processor II/n/a/yes 16, 13 × 100, 16, 13 × 75, Sarsedt/— yes yes/floor & subfloor mounted/yes compressed air, electricity/monthly single specimen container per carrier/yes</p>	<p>yes The Efficiency Series/varies with instrument size/yes 16, 13 × 100, 16, 13 × 75/2,300 tubes per hour yes yes/floor mounted, overhead mounted, subfloor mounted/yes compressed air, electricity/bimonthly single specimen container per carrier/yes</p>
<p>Automated centrifugation available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Maximum throughput/Containers device accommodates • Can identify tube types for custom programmed rate & spin times per run • More than one centrif. can be connected to track system • For multi-unit centrif., each centrif. operates independently for rate & time • Maintenance required <p>Automated input/accessioning available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required <p>Automated decapping available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required • Removes multiple size tube caps per run/ Removes screw type sample caps <p>Automated sorting available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by <p>Specimen integrity monitor available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required <p>Automated aliquotting available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates • Inspects samples for bar code/Detects & reports clots in specimen • Detects & reports quantity not sufficient specimens/Maintenance required 	<p>yes Power Processor II/n/a/yes 300-450/16, 13 × 100, 16, 13 × 75, Sarstedt no yes yes weekly yes Power Processor II/n/a/yes/900 16, 13 × 100, 16, 13 × 75, Sarstedt/yes 200/monthly yes Power Processor II/n/a/yes/600 16, 13 × 100, 16, 13 × 75, Sarstedt/monthly yes/no yes Power Processor II/n/a/yes/500 16, 13 × 100, 16, 13 × 75, Sarstedt/method, output yes Power Processor II/n/a/yes/90 16, 13 × 100, 16, 13 × 75, Sarstedt/monthly yes Power Processor II/n/a/yes/140 primary samples 16, 13 × 100, 16, 13 × 75, Sarstedt yes/yes yes/daily, weekly</p>	<p>yes Hettich Robotic/84 × 50 × 63 in./yes 280/16, 13 × 100, 16, 13 × 75 yes yes yes bimonthly yes The Efficiency Series/can be customized/yes/2,300 (per hour) 16, 13 × 100, 16, 13 × 75/yes 2,300/bimonthly yes —/—/yes/1,000 16, 13 × 100, 16, 13 × 75/bimonthly yes/yes yes The Efficiency Series/can be customized/yes/2,300 16, 13 × 100, 16, 13 × 75/specimen type, output priority — — — yes —/79 × 125 × 73 in./yes 16, 13 × 100, 16, 13 × 75 yes/yes yes/bimonthly</p>
<p>Instrument (analyzer) interfaces</p> <ul style="list-style-type: none"> • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem <p>Physical/hardware (instrument/specimen) interface</p> <ul style="list-style-type: none"> • Hematology/Chemistry/Coagulation <p>• Immunoassay/Urinalysis</p>	<p>yes yes robotic arm interface/point-of-reference sampling & rob. arm interf./pt-of-ref samp. & rob. arm interf. pt-of-ref sampling & robotic arm interface/pt-of-ref sampling</p>	<p>yes yes robotic arm interface/pt-of-ref sampling/robotic arm interface point-of-reference sampling/point-of-reference sampling</p>
<p>Instruments to which your system/product is interfaced</p> <p>Other robotic products/components to which system, product is linked</p>	<p>Abbott Architect, Axsym; Bayer Centaur, Atlas; Beckman Coulter LX 20, DxG, DxI; Ortho 950, 250, Eci; Roche Modular; Stago Star</p> <p>n/a</p>	<p>Ortho: Vitros 5,1,950, & 250; Abbott: Architect i2000, Axsym; Olympus: DPC Immulite 2000; Roche Modular; Beckman Coulter: DXI 800</p> <p>—</p>
<p>Automated recapper or sealer available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Recaps-seals multiple size tubes simultaneously/Containers device accomm. • Maintenance required 	<p>yes Power Processor III/—/yes/500 no/13 × 100, 13 × 75, Sarstedt weekly</p>	<p>yes —/—/yes/800 yes/16, 13 × 100, 16, 13 × 75 bimonthly</p>
<p>Automated storage & retrieval available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Containers device accommodates/Connects to the track • Room temperature/Min. & max. No. of tubes stored per module • Multiple size tubes can be stored in the same module/Maintenance required • Refrigerated storage & retrieval capability <p>Longitudinal upgrade pathway or plan to protect users' investments</p> <p>Avg. time to install/Who provides service, support/Hours support is available</p> <p>On-site biomedical engineer required/User group meets regularly</p>	<p>yes Power Processor III/—/yes/500 13 × 100, 13 × 75, Sarstedt/yes yes/1 & 6,000 no/weekly yes Power Processor is expandable for upgrades as lab needs grow 7-21 days/Beckman Coulter/24/7 no/yes</p>	<p>yes —/—/yes/1,200 16, 13 × 100, 16, 13 × 75/yes yes/up to 1,200 no/— no easily extendable 1-2 weeks/Integrated Laboratory Automation Solutions/24/7 no/no</p>
<p>List price</p> <p>Individual list prices for components</p> <ul style="list-style-type: none"> • Process control SW/Transportation systems/Auto. centrifugation • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval • Specimen integrity monitor/Automated aliquot • Instrument (analyzer) interfaces/Automated recap 	<p>depends on configuration</p> <p>— — — —</p>	<p>depends on configuration and laboratory requirement</p> <p>— — — —</p>
<p>Distinguishing features</p> <p>* For basic building block unit</p> <p>** Average throughput in specimen containers per hr per device</p>	<p>refrigerated storage with recapping and auto rerun; totally open system; intelligent aliquotting; proven consistent TAT results</p>	<p>prioritizes STATS; uses variety of tube sizes; provides smart sorting and delivery; totally flexible; interfaces with any track-ready instruments and wide range of LIS vendors; remote management; adaptable for all size labs</p>

Laboratory automation systems and workcells

<p>Part 4 of 12</p>	<p>Motoman, Inc. Craig Rubenstein craig.rubenstein@motoman.com 805 Liberty Lane, West Carrollton, OH 45449 949-263-2648 www.motoman.com/labauto/</p>	<p>Motoman, Inc. Craig Rubenstein craig.rubenstein@motoman.com 805 Liberty Lane, West Carrollton, OH 45449 949-263-2648 www.motoman.com/labauto/</p>
<p>Name of system/First year installed/No. of 2007 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia</p>	<p>Autosorter II/2006/4 16/—/—</p>	<p>Autosorter III/2008/4 16/—/—</p>
<p>Automation products that are available</p> <ul style="list-style-type: none"> • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage-retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote sys. monitoring 	<p>yes/no yes/yes/yes/yes yes/yes/no/yes (recapping) no/no yes/yes/open yes/yes</p>	<p>yes/no yes/yes/yes/yes yes/yes/no/yes (recapping) no/no yes/yes/open yes/yes</p>
<p>Software features/functionality</p> <ul style="list-style-type: none"> • Patient demographics & insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats & management reports • Evaluates validity & releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession No. redundancy (duplicate specimen ID) • Supports specimen carrier & level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • Routes test to workstation/Automatic reflex, repeat, dilutions • Supports multiple HW config./Supports other proprietary transport. HW • Sample storage & retrieval SW/Supports approved CLSI standards 	<p>—/automation SW feature automation SW feature/automation SW feature automation SW feature/ automation SW feature/automation SW feature — automation SW feature/ automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature automation SW feature automation SW feature/ automation SW feature —/— automation SW feature/— automation SW feature/automation SW feature automation SW feature/automation SW feature</p>	<p>—/automation SW feature automation SW feature/automation SW feature automation SW feature/ automation SW feature/automation SW feature — automation SW feature/ automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature automation SW feature automation SW feature/ automation SW feature —/— automation SW feature/— automation SW feature/automation SW feature automation SW feature/automation SW feature</p>
<p>LIS(s) & versions interfaced & live w/ LAS/How LIS(s) are interfaced w/ your LAS</p>	<p>Cerner, Triple G, Surround/ODBC, HL7</p>	<p>Cerner, Triple G, Surround/ODBC, HL7</p>
<p>Transportation systems available</p> <ul style="list-style-type: none"> • Model/Dimen.* (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Containers device accommodates/Avg. throughput in cm per second • Supports automatic rerouting for reflex-repeat-dilutions • Modular HW/Installed options/Device can operate in track & manual mode • Required utilities/Required maintenance • Carrier type/Scalable system 	<p>yes —/configuration dependent/yes 16, 13 × 100, 16, 13 × 75, 9–16 mm diameter, 75–100 mm height/50 no no/floor mounted/yes compressed air, electricity/daily, monthly, annually single and multiple (30) specimen container per carrier/yes</p>	<p>yes —/configuration dependent/yes 16, 13 × 100, 16, 13 × 75, 9–16 mm diameter, 75–100 mm height/50 no no/floor mounted/yes electricity/daily, monthly, annually single specimen container per carrier/yes</p>
<p>Automated centrifugation available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Maximum throughput/Containers device accommodates • Can identify tube types for custom programmed rate & spin times per run • More than one centrif. can be connected to track system • For multi-unit centrif., each centrif. operates independently for rate & time • Maintenance required <p>Automated input/accessioning available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required <p>Automated decapping available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required • Removes multiple size tube caps per run/ Removes screw type sample caps <p>Automated sorting available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by <p>Specimen integrity monitor available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required <p>Automated aliquotting available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates • Inspects samples for bar code/Detects & reports clots in specimen • Detects & reports quantity not sufficient specimens/Maintenance required 	<p>no — — — — — yes AutoSorter II/6 × 5 × 5 ft./yes/1,000 16, 13 × 100, 16, 13 × 75, 9–16 mm diameter, 75–100 mm height/yes 1,000/daily, monthly, annually yes —/fits within footprint of AutoSorter II/yes/1,000 16, 13 × 100, 16, 13 × 75, 9–16 mm dia., 75–100 mm hgt./daily, monthly, annually yes/yes yes AutoSorter II/6 × 5 × 5 ft./yes/1,000 16, 13 × 100, 16, 13 × 75, 9–16 mm dia., 75–100 mm hgt./specimen, method, output — — — yes Aloka APS/68 × 101 × 43 in./yes/500 16, 13 × 100, 16, 13 × 75 yes/yes yes/daily, monthly, annually</p>	<p>yes Hettich Rotanta/81 × 87 × 42 in., 9–16 mm dia, 75–100 mm height/yes 300+/16, 13 × 100, 16, 13 × 75, 9–16 mm dia, 75–100 mm height no no — daily, monthly, annually yes AutoSorter III/81 × 87 × 42 in. (enclosed within ASIII footprint)/yes/800 16, 13 × 100, 16, 13 × 75, 9–16 mm dia, 75–100 mm hgt/yes 300/daily, monthly, annually yes AutoSorter III/81 × 87 × 42 in. (enclosed within ASIII footprint)/yes/800 16, 13 × 100, 16, 13 × 75, 9–16 mm dia, 75–100 mm hgt/daily, monthly, annually yes/yes yes AutoSorter III/81 × 87 × 42 in./yes/800 16, 13 × 100, 16, 13 × 75, 9–16 mm dia, 75–100 mm hgt/specimen, method, output — — — yes (available late 2008) Aloka module/to be determined/yes/100–200 16, 13 × 100, 16, 13 × 75 yes/yes yes/daily, monthly, annually</p>
<p>Instrument (analyzer) interfaces</p> <ul style="list-style-type: none"> • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem <p>Physical/hardware (instrument/specimen) interface</p> <ul style="list-style-type: none"> • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis 	<p>no no — —</p>	<p>no no — —</p>
<p>Instruments to which your system/product is interfaced</p>	<p>—</p>	<p>—</p>
<p>Other robotic products/components to which system, product is linked</p>	<p>MDS (now Innotek) single-specimen carrier transportation system</p>	<p>MDS (now Innotek) single-specimen carrier transportation system</p>
<p>Automated recapper or sealer available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Recaps-seals multiple size tubes simultaneously/Containers device accomm. • Maintenance required 	<p>yes (recapper) AutoSorter II/6 × 5 × 5 ft./yes/>1,800 yes/16, 13 × 100, 16, 13 × 75 daily, monthly, annually</p>	<p>yes (available late 2008) AutoSorter III/to be determined/yes/800 yes/16, 13 × 100, 16, 13 × 75 daily, monthly, annually</p>
<p>Automated storage & retrieval available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Containers device accommodates/Connects to the track • Room temperature/Min. & max. No. of tubes stored per module • Multiple size tubes can be stored in the same module/Maintenance required • Refrigerated storage & retrieval capability <p>Longitudinal upgrade pathway or plan to protect users' investments</p>	<p>no — — — — flexible, open design permits change of tubes/racks as instrumentation changes; connectivity and functionality upgrades</p>	<p>no — — — — flexible, open design permits change of tubes/racks as instrumentation changes; connectivity and functionality upgrades</p>
<p>Avg. time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly</p>	<p><1-2 weeks, + for complex systems/Motoman/24/7 hotline no/no</p>	<p><1 week/Motoman/24/7 hotline no/no</p>
<p>List price Individual list prices for components</p> <ul style="list-style-type: none"> • Process control SW/Transportation systems/Auto. centrifugation • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval • Specimen integrity monitor/Automated aliquot • Instrument (analyzer) interfaces/Automated recap 	<p>\$250,000 included/configuration dependent/— included/configuration dependent/included/— —/configuration dependent —/configuration dependent</p>	<p>\$195,000 included/configuration dependent/\$39,500 included/included/included/— —/to be determined —/to be determined</p>
<p>Distinguishing features</p>	<p>customization-friendly; designed and built in the U.S.; independent of IVD instrument manufacturers; global leader in automation; free-standing, high throughput instruments or integrated lines</p>	<p>customization-friendly; designed and built in the U.S.; independent of IVD instrument manufacturers; global leader in automation; free-standing, small footprint, modular automation</p>
<p>* For basic building block unit ** Average throughput in specimen containers per hr per device</p>		

Tabulation does not represent an endorsement by the College of American Pathologists.

Laboratory automation systems and workcells

<i>Part 5 of 12</i>	Olympus America Inc. Hiroshi Sekiya hiro.sekiya@olympus.com 3500 Corporate Parkway, Center Valley, PA 18034-0610 484-896-5229 www.olympusamerica.com	Olympus America Inc. Hiroshi Sekiya hiro.sekiya@olympus.com 3500 Corporate Parkway, Center Valley, PA 18034-0610 484-896-5229 www.olympusamerica.com
Name of system/First year installed/No. of 2007 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia	OLA2500 High Speed Sorter/2004/7 50/200+/3	OLA2500 Lab Automation System/2003/7 50/200+/3
Automation products that are available • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage-retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote sys. monitoring	yes/— yes/—/no/yes yes/yes/—/yes no/yes no/yes/open yes/yes	yes/— yes/—/no/yes yes/yes/—/yes no/yes no/yes/open yes/yes
Software features/functionality • Patient demographics & insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats & management reports • Evaluates validity & releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession No. redundancy (duplicate specimen ID) • Supports specimen carrier & level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • Routes test to workstation/Automatic reflex, repeat, dilutions • Supports multiple HW config./Supports other proprietary transport. HW • Sample storage & retrieval SW/Supports approved CLSI standards	LIS feature/automation SW feature automation SW feature/automation SW feature automation SW feature/n/a/automation SW feature n/a auto. SW feature/auto. SW & LIS feature/auto. SW feature automation SW feature automation SW feature not necessary automation SW feature/automation SW feature automation SW feature/n/a automation SW feature/n/a automation SW feature/automation SW feature automation SW feature	LIS feature/automation SW feature automation SW feature/automation SW feature automation SW feature/n/a/automation SW feature n/a auto. SW feature/auto. SW & LIS feature/auto. SW feature automation SW feature automation SW feature not necessary automation SW feature/automation SW feature automation SW feature/n/a automation SW feature/n/a automation SW feature/automation SW feature automation SW feature
LIS(s) & versions interfaced & live w/LAS/How LIS(s) are interfaced w/your LAS	Cerner, Misys, Modulus, Data Innovations, SCC, Atlas, McKesson/HL7, ASTM, Olympus format conforms to ASTM1381	Cerner, Misys, Modulus, Data Innovations, SCC, Atlas, McKesson/HL7, ASTM, Olympus format conforms to ASTM1381
Transportation systems available • Model/Dimen.* (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Containers device accommodates/Avg. throughput in cm per second • Supports automatic rerouting for reflex-repeat-dilutions • Modular HW/Installed options/Device can operate in track & manual mode • Required utilities/Required maintenance • Carrier type/Scalable system	no — — — — —	no — — — — —
Automated centrifugation available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Maximum throughput/Containers device accommodates • Can identify tube types for custom programmed rate & spin times per run • More than one centrif. can be connected to track system • For multi-unit centrif., each centrif. operates independently for rate & time • Maintenance required	no — — — — —	no — — — — —
Automated input/accessioning available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required	yes OLA2500 HSS/64.6 × 73.2 × 52.8 in/yes/1,200 16, 13 × 100, 16, 13 × 75, others/— —/—	yes OLA2500 LAS/64.6 × 100 × 52.8 in/yes/800 16, 13 × 100, 16, 13 × 75, others/— —/—
Automated decapping available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required • Removes multiple size tube caps per run/ Removes screw type sample caps	yes OLA2500 HSS/64.6 × 73.2 × 52.8 in/yes/1,200 16, 13 × 100, 16, 13 × 75, others/weekly yes/yes	yes OLA2500 LAS/64.6 × 100 × 52.8 in/yes/800 16, 13 × 100, 16, 13 × 75, others/weekly yes/yes
Automated sorting available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by	yes OLA2500 HSS/64.6 × 73.2 × 52.8 in/yes/1,200 16, 13 × 100, 16, 13 × 75, others/specimen, method, output	yes OLA2500 LAS/64.6 × 100 × 52.8 in/yes/800 16, 13 × 100, 16, 13 × 75, others/specimen, method, output
Specimen integrity monitor available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required	no — —	no — —
Automated aliquotting available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates • Inspects samples for bar code/Detects & reports clots in specimen • Detects & reports quantity not sufficient specimens/Maintenance required	yes —/—/yes/— — —/— —/—	yes OLA2500 LAS/64.6 × 100 × 52.8 in/yes/— 16, 13 × 100, 16, 13 × 75, others yes/yes yes/daily
Instrument (analyzer) interfaces • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem Physical/hardware (instrument/specimen) interface • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis	no no —/—/— —/—	no no —/—/— —/—
Instruments to which your system/product is interfaced Other robotic products/components to which system, product is linked	n/a —	n/a —
Automated recapper or sealer available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Recaps-seals multiple size tubes simultaneously/Containers device accomm. • Maintenance required	sealer OLA2500 HSS/64.6 × 73.2 × 52.8 in/yes/1,200 yes/16, 13 × 100, 16, 13 × 75, others —	sealer OLA2500 LAS/64.6 × 100 × 52.8 in/yes/800 yes/16, 13 × 100, 16, 13 × 75, others —
Automated storage & retrieval available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Connects to the track • Room temperature/Min. & max. No. of tubes stored per module • Multiple size tubes can be stored in the same module/Maintenance required • Refrigerated storage & retrieval capability Longitudinal upgrade pathway or plan to protect users' investments Avg. time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly	no — — — — — 1 week/Olympus America/M-F 8 AM to 5 PM & 24/7 available no/no	no — — — — — 1 week/Olympus America/M-F 8 AM to 5 PM & 24/7 no/no
List price Individual list prices for components • Process control SW/Transportation systems/Auto. centrifugation • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval • Specimen integrity monitor/Automated aliquot • Instrument (analyzer) interfaces/Automated recap	\$250,000 list price —/—/— —/—/—/— —/— —/—	\$350,000 list price —/—/— —/—/—/— —/— —/—
Distinguishing features	economical, flexible, open, stand-alone; automates the most labor-intensive manual tasks with speed and flexibility; raises safety, quality, productivity, and efficiency without large investment	economical, flexible, open, stand-alone; automates the most labor-intensive manual tasks with speed and flexibility; raises safety, quality, productivity, and efficiency without large investment
* For basic building block unit ** Average throughput in specimen containers per hr per device		

Laboratory automation systems and workcells

<i>Part 6 of 12</i>	Olympus America Inc. Hiroshi Sekiya hiro.sekiya@olympus.com 3500 Corporate Parkway, Center Valley, PA 18034-0610 484-896-5229 www.olympusamerica.com	Ortho-Clinical Diagnostics Nadav Kaufman nkaufman@ocdus.jnj.com 1001 US Route 202, Raritan, NJ 08869 908-704-3839 www.orthoclinical.com
Name of system/First year installed/No. of 2007 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia	OLA2500 High Speed Sorter with Aliquotter (HSSA)/2006/— 50/200+/3	enGen Laboratory Automation System/2001/16 9/23/0
Automation products that are available • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage-retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote sys. monitoring	yes/— yes/—/no/yes yes/yes/—/yes no/yes no/yes/open yes/yes	yes/yes yes/yes/yes/yes yes/yes/no/in development in development/yes yes/yes/open yes/yes, for VITROS 5,1 FS & EciQ
Software features/functionality • Patient demographics & insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats & management reports • Evaluates validity & releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession No. redundancy (duplicate specimen ID) • Supports specimen carrier & level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • Routes test to workstation/Automatic reflex, repeat, dilutions • Supports multiple HW config./Supports other proprietary transport. HW • Sample storage & retrieval SW/Supports approved CLSI standards	LIS feature/automation SW feature automation SW feature/automation SW feature automation SW feature/n/a/automation SW feature n/a auto. SW feature/auto. SW & LIS feature/auto. SW feature automation SW feature automation SW feature not necessary automation SW feature/automation SW feature automation SW feature/n/a automation SW feature/n/a automation SW feature/automation SW feature automation SW feature	automation SW feature/automation SW feature automation SW feature/automation SW feature n/a/automation SW feature/automation SW feature automation SW feature automation SW feat./automation SW feat./automation SW feat. no automation SW feature automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/yes, Sysmex HST automation SW feature/—
LIS(s) & versions interfaced & live w/LAS/How LIS(s) are interfaced w/your LAS	Cerner, Misys, Modulus, Data Innovations, SCC, Atlas, McKesson/HL7, ASTM, Olympus format conforms to ASTM1381-91	enGen interfaces with many LIS programs via Data Innovations MW: Cerner, Misys, SCC, several others/HL7, ASTM
Transportation systems available • Model/Dimen.* (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Containers device accommodates/Avg. throughput in cm per second • Supports automatic rerouting for reflex-repeat-dilutions • Modular HW/Installed options/Device can operate in track & manual mode • Required utilities/Required maintenance • Carrier type/Scalable system	no — — — — —	yes Covered Conveyor/600 to 2400 mm sections/yes 16, 13 × 100; 16, 13 × 75/10 yes yes/floor mounted/yes compressed air, electricity/annually single specimen container per carrier/yes
Automated centrifugation available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Maximum throughput/Containers device accommodates • Can identify tube types for custom programmed rate & spin times per run • More than one centrif. can be connected to track system • For multi-unit centrif., each centrif. operates independently for rate & time • Maintenance required	no — — — — —	yes centrifuge module/1,900 × 1,200 × 1,375 mm/yes 400; 96-tube capacity/13 × 100, 13 × 75 yes yes yes quarterly
Automated input/accessioning available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required	yes OLA2500 LAS/64.6 × 100.6 × 52.8 in/yes/1,200 16, 13 × 100, 16, 13 × 75, others/— —/—	yes rack entry-exit module/1,900 × 1,200 × 965 mm/yes/500 16, 13 × 100; 16, 13 × 75/yes 600/annually
Automated decapping available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required • Removes multiple size tube caps per run/ Removes screw type sample caps	yes OLA2500 LAS/64.6 × 100.6 × 52.8 in/yes/1,200 16, 13 × 100, 16, 13 × 75, others/weekly yes/yes	yes decapper module/1,600 × 600 × 965 mm/yes/600 16, 13 × 100; 16, 13 × 75/annually yes/yes
Automated sorting available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by	yes OLA2500 LAS/64.6 × 100.6 × 52.8 in/yes/1,200 16, 13 × 100, 16, 13 × 75, others/specimen, method, output	yes rack exit-entry module/1,900 × 1,200 × 965 mm/yes/500 16, 13 × 100; 16, 13 × 75/specimen, method, output
Specimen integrity monitor available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required	no — —	yes via Vitros 5,1 FS Chemistry System when part of enGen/—/—/— 16, 13 × 100; 16, 13 × 75/daily, weekly, monthly, annually
Automated aliquotting available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates • Inspects samples for bar code/Detects & reports clots in specimen • Detects & reports quantity not sufficient specimens/Maintenance required	yes OLA2500 LAS/64.6 × 100.6 × 52.8 in/yes/— 16, 13 × 100, 16, 13 × 75, others yes/yes yes/daily, quarterly	yes aliquotter & labeler module/1,900 × 1,500 × 965 mm/yes/200 16, 13 × 100; 16, 13 × 75 yes/yes yes/quarterly
Instrument (analyzer) interfaces • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem Physical/hardware (instrument/specimen) interface • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis	no no —/—/— —/—	yes — robotic arm interface/pt.-of-ref. sampling/in development point-of-reference sampling/—
Instruments to which your system/product is interfaced	n/a	Vitros 5,1 FS, 950, 250/350 Systems, Vitros EciQ IA System (pending regulatory approval); enGen interfaces w/sev. non-Vitros IA systems
Other robotic products/components to which system, product is linked	—	Sysmex HST
Automated recapper or sealer available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Recaps-seals multiple size tubes simultaneously/Containers device accomm. • Maintenance required	sealer OLA2500 LAS/64.6 × 100.6 × 52.8 in/yes/1,200 yes/16, 13 × 100, 16, 13 × 75, others —	recapper recapper module/1,600 × 600 × 965 mm/yes/500 yes/16, 13 × 100; 16, 13 × 75 annually
Automated storage & retrieval available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Containers device accommodates/Connects to the track • Room temperature/Min. & max. No. of tubes stored per module • Multiple size tubes can be stored in the same module/Maintenance required • Refrigerated storage & retrieval capability Longitudinal upgrade pathway or plan to protect users' investments	no — — — — — —	yes, in development — — — — — customized automation offering, enGen can be reconfigured or upgraded as needs change; SW configuration updates available periodically depends on config., custom./depends on service contract with Ortho no/no
Avg. time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly	1 week/Olympus America/M-F 8 AM to 5 PM & 24/7 available no/no	depends on configuration
List price Individual list prices for components • Process control SW/Transportation systems/Auto. centrifugation • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval • Specimen integrity monitor/Automated aliquot • Instrument (analyzer) interfaces/Automated recap	\$400,000 —/—/— —/—/—/— —/— —/\$40,000 (optional)	— — — —
Distinguishing features * For basic bulding block unit ** Average throughput in specimen containers per hr per device	economical, flexible, open, stand-alone; automates the most labor-intensive manual tasks with speed & flexibility; raises safety, quality, productivity & efficiency without large investment	customizable: systems designed to fit in existing floor space while providing Lean workflow; configurable: systems designed to interface with several lab analyzers; systems grow with the lab

Laboratory automation systems and workcells

<p><i>Part 7 of 12</i></p>	<p>PVT LabSystems LLC Miriam Hoelzel info@pvtlabsystems.com 300 Town Park Dr., Kennesaw, GA 30144 877-788-5227 www.pvtlabsystems.com</p>	<p>PVT LabSystems LLC Miriam Hoelzel info@pvtlabsystems.com 300 Town Park Dr., Kennesaw, GA 30144 877-788-5227 www.pvtlabsystems.com</p>
<p>Name of system/First year installed/No. of 2007 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia</p>	<p>Aliquoting System RSA Pro/2002/44 12 (plus 30 former versions)/120 (plus 100 former versions)/44</p>	<p>Workstation/2003/8 4/20/1</p>
<p>Automation products that are available</p> <ul style="list-style-type: none"> • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage-retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote sys. monitoring 	<p>yes/yes yes/no/yes (as option)/yes yes/yes/yes/yes yes/yes yes/yes/open yes/yes</p>	<p>yes/yes yes/no/yes/yes yes/yes/yes/yes yes/yes yes/yes/open yes/yes</p>
<p>Software features/functionality</p> <ul style="list-style-type: none"> • Patient demographics & insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats & management reports • Evaluates validity & releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession No. redundancy (duplicate specimen ID) • Supports specimen carrier & level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • Routes test to workstation/Automatic reflex, repeat, dilutions • Supports multiple HW config./Supports other proprietary transport. HW • Sample storage & retrieval SW/Supports approved CLSI standards 	<p>automation SW feature/automation SW feature automation SW feature/— automation SW feature/automation SW feature/automation SW feature — automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature — automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/— automation SW feature/— automation SW feature/automation SW feature</p>	<p>automation SW feature/automation SW feature automation SW feature/— automation SW feature/automation SW feature/automation SW feature — automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature — automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/— automation SW feature/— automation SW feature/automation SW feature</p>
<p>LIS(s) & versions interfaced & live w/LAS/How LIS(s) are interfaced w/your LAS</p>	<p>Cerner, MCS, LDS, Medat, Systek, MIPS, Providens, Bayer, Molis, Omega, Misys, Vertex, Zanacore, DI, Cirrus, SCC Soft, Nyantech, others/ASTM and system-specific dynamic interface</p>	<p>Cerner, MCS, LDS, Medat, Systek, MIPS, Providens, Bayer, Molis, Omega, Misys, Vertex, Zanacore, DI, Cirrus, SCC Soft, Nyantech, others/ASTM and system-specific dynamic interface</p>
<p>Transportation systems available</p> <ul style="list-style-type: none"> • Model/Dimen.* (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Containers device accommodates/Avg. throughput in cm per second • Supports automatic rerouting for reflex-repeat-dilutions • Modular HW/Installed options/Device can operate in track & manual mode • Required utilities/Required maintenance • Carrier type/Scalable system 	<p>yes —/—/yes 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm/— no yes/floor mounted/yes compressed air, electricity/every four months single specimen container per carrier/yes</p>	<p>yes —/—/yes 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm/— no yes/floor mounted/yes compressed air, electricity/every 4 months single and mult. (5) specimen container per carrier/yes</p>
<p>Automated centrifugation available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Maximum throughput/Containers device accommodates • Can identify tube types for custom programmed rate & spin times per run • More than one centrif. can be connected to track system • For multi-unit centrif., each centrif. operates independently for rate & time • Maintenance required <p>Automated input/accessioning available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required <p>Automated decapping available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required • Removes multiple size tube caps per run/ Removes screw type sample caps <p>Automated sorting available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by <p>Specimen integrity monitor available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required <p>Automated aliquotting available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates • Inspects samples for bar code/Detects & reports clots in specimen • Detects & reports quantity not sufficient specimens/Maintenance required 	<p>yes (as option) EC1 or EC2/EC1: 83.07×61.42×67.71 in.; EC2: 83.07×85.83×67.71 in./yes depends on configuration/16, 13×100, 16, 13×75, 11.5×65.5 to 15.5×108 mm yes yes yes every 6 months yes input sorter/78.74 × 33.47 × 69.29 in./1,200 with sort & decap only 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm/yes 600/every 4 months yes decapping module/14.96 × 12.60 × 5.90 in./1,200 with sort & decap only 16, 13×100, 16, 13×75, 11.5×65.5 to 15.5×108 mm/every 4 months yes/yes yes output sorter/71.65 × 55.90 × 55.11 in./yes/1,200 with sort & decap only 16, 13×100, 16, 13×75, 11.5×65.5 to 15.5×108 mm/specimen, method, output yes (as option) QS I module/62.99 × 30.71 × 43.31 in./yes/850 16, 13×100, 16, 13×75, 11.5×65.5 to 15.5×108 mm/every 4 months yes aliquotting unit/66.92 × 30.70 × 46.10 in./yes/540 16, 13×100, 16, 13×75, 11.5×65.5 to 15.5×108 mm yes/yes yes/every 4 months</p>	<p>yes EC1 or EC2/EC1: 83.07×61.42×67.71 in.; EC2: 83.07×85.83×67.71 in./yes depends on configuration/16, 13 × 100, 15, 13 × 75, others yes yes yes every 6 months yes input sorter/78.74 × 33.47 × 69.29 in./ yes/1,200 with sort & decap only 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm/yes 600/every 4 months yes decapping module/14.96×12.60×5.90 in./yes/1,200 with sort & decap only 16, 13×100, 16, 13×75, 11.5×65.5 to 15.5×108 mm/every 4 months yes/yes yes output/71.65 × 55.90 × 55.11 in./yes/1,200 with sort & decap only 16, 13×100, 16, 13×75, 11.5×65.5 to 15.5×108 mm/specimen, method, output yes (as option) QS I module/62.99 × 30.71 × 43.31 in./yes/850 16, 13×100, 16, 13×75, 11.5×65.5 to 15.5×108 mm/every 4 months yes aliquotting unit/66.92 x 30.70 x 46.10 in/ yes/540 16, 13×100, 16, 13×75, 11.5×65.5 to 15.5×108 mm yes/yes yes/every 4 months</p>
<p>Instrument (analyzer) interfaces</p> <ul style="list-style-type: none"> • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem <p>Physical/hardware (instrument/specimen) interface</p> <ul style="list-style-type: none"> • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis 	<p>no no —/—/— —/—</p>	<p>no no —/—/— —/—</p>
<p>Instruments to which your system/product is interfaced Other robotic products/components to which system, product is linked</p>	<p>— —</p>	<p>— —</p>
<p>Automated recapper or sealer available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Recaps-seals multiple size tubes simultaneously/Containers device accomm. • Maintenance required 	<p>recapper (as option) recapping module/13.39 × 12.20 × 8.66/yes/1,100 yes/16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 to 15.5 × 108 mm every 4 months</p>	<p>recapper (as option) recapping module/13.39 × 12.20 × 8.66 in/yes/1,100 with sort & decap only yes/16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 to 15.5 × 108 mm every 4 months</p>
<p>Automated storage & retrieval available</p> <ul style="list-style-type: none"> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Containers device accommodates/Connects to the track • Room temperature/Min. & max. No. of tubes stored per module • Multiple size tubes can be stored in the same module/Maintenance required • Refrigerated storage & retrieval capability <p>Longitudinal upgrade pathway or plan to protect users' investments Avg. time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly</p>	<p>yes —/—/yes/1,200 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 to 15.5 × 108 mm/no yes/1,200 yes/every 4 months no independent of any analyzer company and modules can be upgraded 1-2 weeks/PVT LabSystems & partners/daily 8 AM-5 PM & 24/7 on request no/no</p>	<p>yes —/—/—/1,200 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 to 15.5 × 108 mm/no yes/1,200 yes/every 4 months no independent of any analyzer company; modules can be upgraded 1-2 weeks/PVT LabSystems & partners/daily 8 AM-5 PM & 24/7 on request no/no</p>
<p>List price Individual list prices for components</p> <ul style="list-style-type: none"> • Process control SW/Transportation systems/Auto. centrifugation • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval • Specimen integrity monitor/Automated aliquot • Instrument (analyzer) interfaces/Automated recap 	<p>\$360k \$15k-\$45k/—/\$170 or \$240k included/included/included/— \$80k/included —/\$50k-\$80k</p>	<p>— \$530k-\$600k/—/included included/included/included/— \$80k/included —/\$50k-\$80k</p>
<p>Distinguishing features</p>	<p>basic platform can be assembled with all modules for a so-called all-in-one system; low consumable costs through standard products; quality module QS I for monitoring (specimen integrity monitor and volume measuring)</p>	<p>independent from any ID company; automated centrifuge works with tubes or racks; all kinds of tubes and racks can be used</p>
<p>* For basic building block unit ** Average throughput in specimen containers per hr per device</p>		

Tabulation does not represent an endorsement by the College of American Pathologists.

Laboratory automation systems and workcells

Part 8 of 12	PVT LabSystems LLC Miriam Hoelzel info@pvtlabsystems.com 300 Town Park Dr., Kennesaw, GA 30144 877-788-5227 www.pvtlabsystems.com	PVT LabSystems LLC Miriam Hoelzel info@pvtlabsystems.com 300 Town Park Dr., Kennesaw, GA 30144 877-788-5227 www.pvtlabsystems.com
Name of system/First year installed/No. of 2007 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia	Sorting System RSD Pro/2001/20 6/6/7/7	Compact Sorting System ProV/2005/5 2/9/0
Automation products that are available • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage-retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote sys. monitoring	yes/yes yes/no/yes (as option)/yes yes/no/no/yes (as option) yes/yes yes/yes/open yes/yes	yes/yes yes/no/no/yes yes/no/no/yes (as option) yes/yes yes/yes/open yes/yes
Software features/functionality • Patient demographics & insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats & management reports • Evaluates validity & releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession No. redundancy (duplicate specimen ID) • Supports specimen carrier & level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • Routes test to workstation/Automatic reflex, repeat, dilutions • Supports multiple HW config./Supports other proprietary transport. HW • Sample storage & retrieval SW/Supports approved CLSI standards	automation SW feature/automation SW feature automation SW feature/— automation SW feature/automation SW feature/automation SW feature — automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature — automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/— automation SW feature/— automation SW feature/automation SW feature	automation SW feature/automation SW feature automation SW feature/— automation SW feature/automation SW feature/automation SW feature — automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature — automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/— automation SW feature/— automation SW feature/automation SW feature
LIS(s) & versions interfaced & live w/LAS/How LIS(s) are interfaced w/your LAS	Cerner, MCS, LDS, Medat, Systek, MIPS, Providens, Bayer, Molis, Omega, Misys, Vertex, Zanacore, DI, Cirrus, SCC Soft, Nyantech, others/ASTM and system-specific dynamic interface	Cerner, MCS, LDS, Medat, Systek, MIPS, Providens, Bayer, Molis, Omega, Misys, Vertex, Zanacore, DI, Cirrus, SCC Soft, Nyantech, others/ASTM and system-specific dynamic interface
Transportation systems available • Model/Dimen.* (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Containers device accommodates/Avg. throughput in cm per second • Supports automatic rerouting for reflex-repeat-dilutions • Modular HW/Installed options/Device can operate in track & manual mode • Required utilities/Required maintenance • Carrier type/Scalable system	yes —/—/yes 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 to 15.5 × 108 mm/— no yes/floor mounted/yes compressed air, electricity/every 6 months single specimen container per carrier/yes	yes —/—/yes 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 to 15.5 × 108 mm/— no yes/floor mounted/yes compressed air, electricity/every 6 months single specimen container per carrier/yes
Automated centrifugation available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5 • Maximum throughput/Containers device accommodates • Can identify tube types for custom programmed rate & spin times per run • More than one centrif. can be connected to track system • For multi-unit centrif., each centrif. operates independently for rate & time • Maintenance required Automated input/accessioning available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required Automated decapping available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required • Removes multiple size tube caps per run/Removes screw type sample caps Automated sorting available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by Specimen integrity monitor available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required Automated aliquotting available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates • Inspects samples for bar code/Detects & reports clots in specimen • Detects & reports quantity not sufficient specimens/Maintenance required	yes (as option) EC1 or EC2/EC1: 83.07 × 61.42 × 67.71 in.; EC2: 83.07 × 85.83 × 67.71 in./yes depends on configuration/16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 to 15.5 × 108 mm yes yes yes every 6 months yes input sorter/78.74 × 33.47 × 69.29 in./ yes/1,200 with sort & decap only 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm/yes 600/every 6 months yes decapping module/14.96 × 12.60 × 5.90 in./yes/1,200 w/sort & decap only 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm/every 6 mo. yes/yes yes output sorter/71.65 × 55.90 × 55.12 in./yes/1,200 with sort & decap only 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 to 15.5 × 108 mm/specimen, method, output yes (as option) QS I module/62.99 × 30.71 × 43.31 in./yes/850 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm/every 6 mo. no — — — —	no — — — — — yes input sorter/78.74 × 33.47 × 49.60 in./yes/1,200 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm/yes 600/every 6 months yes decapping module/14.96 × 12.99 × 5.90 in./yes/1,200 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm/every 6 mo. yes/yes yes output sorter/78.74 × 33.47 × 74.40 in./yes/1,200 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 to 15.5 × 108 mm/specimen, method, output yes TTI/—/yes/1,200 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm/every 6 mo. no — — — —
Instrument (analyzer) interfaces • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem Physical/hardware (instrument/specimen) interface • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis	no no —/—/— —/—	no no —/—/— —/—
Instruments to which your system/product is interfaced Other robotic products/components to which system, product is linked	— —	— —
Automated recapper or sealer available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Recaps-seals multiple size tubes simultaneously/Containers device accomm. • Maintenance required	recapper (as option) recapping module/13.39 × 12.20 × 8.66/yes/1,100 yes/16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm every 6 months	recapper (as option) recapping module/13.39 × 12.20 × 8.66/yes/1,100 yes/16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm every 6 months
Automated storage & retrieval available • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Connects to the track • Room temperature/Min. & max. No. of tubes stored per module • Multiple size tubes can be stored in the same module/Maintenance required • Refrigerated storage & retrieval capability Longitudinal upgrade pathway or plan to protect users' investments	yes —/—/yes/1,200 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm/no yes/1,200 yes/every 6 months no independent of any analyzer company; modules can be upgraded	yes —/—/no/1,200 16, 13 × 100, 16, 13 × 75, 11.5 × 65.5 mm up to 15.5 × 108 mm/no yes/— yes/every 6 months no independent of any analyzer company and modules can be upgraded
Avg. time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly	1 week/PVT LabSystems & partners/daily 8 AM–5 PM (EST); 24/7 on request no/no	1 week/PVT LabSystems & partners/daily 8 AM–5 PM (EST); 24/7 on request no/no
List price Individual list prices for components • Process control SW/Transportation systems/Auto. centrifugation • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval • Specimen integrity monitor/Automated aliquot • Instrument (analyzer) interfaces/Automated recap	\$230k \$15k–\$45k/—/\$170k–\$240k included/included/included/— \$80k/— —/\$50k	\$220k \$15k–\$45k/—/— included/included/included/— \$13k/n/a n/a/\$50k
Distinguishing features * For basic building block unit ** Average throughput in specimen containers per hr per device	recapping can be used for all kinds of tubes; perfect solution for archiving; PVT offers customized solution	hardware and software completely customized; high throughput; upgradable with more modules

Laboratory automation systems and workcells

Part 9 of 12	Roche Diagnostics Corp. Leslie Casciato leslie.casciato@roche.com 9115 Hague Rd., Indianapolis, IN 46250 317-521-4011 www.us.labsystems.roche.com	Siemens Healthcare Diagnostics Eric LaFleche 555 Benedict Avenue, Tarrytown, NY 10591 914-524-3823 www.siemens.com/diagnostics
Name of system/First year installed/No. of 2007 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia	Modular Pre-Analytics/2000/38 69/300+ worldwide	Advia LabCell/1998/35 24/55/14
Automation products that are available • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage-retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote sys. monitoring	yes/yes yes/n/a/yes/yes yes/yes/yes/yes yes/in development yes/yes/open yes/yes	yes/yes yes/yes/yes/yes yes/no/no/in development yes/yes yes/yes/closed yes/yes
Software features/functionality • Patient demographics & insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats & management reports • Evaluates validity & releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession No. redundancy (duplicate specimen ID) • Supports specimen carrier & level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • Routes test to workstation/Automatic reflex, repeat, dilutions • Supports multiple HW config./Supports other proprietary transport. HW • Sample storage & retrieval SW/Supports approved CLSI standards	automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature	LIS feature/automation SW feature automation SW feat./LIS feature automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature
LIS(s) & versions interfaced & live w/ LAS/How LIS(s) are interfaced w/ your LAS	Cerner, Misys, Cerner Millennium, Vista, Meditech, McKesson, Soft, DoD, others/LIS to LAS, ASTM, HL7	Siemens, Cerner, Meditech, SCC Soft, Misys, Data Innovations, OSI, Telepath-iSoft, Netlab, LMX Labzis II, SCL 2000, others/ASTM
Transportation systems available • Model/Dimen.* (H x W x D)/Conforms to CLSI Stand. Auto 1-5 • Containers device accommodates/Avg. throughput in cm per second • Supports automatic rerouting for reflex-repeat-dilutions • Modular HW/Installed options/Device can operate in track & manual mode • Required utilities/Required maintenance • Carrier type/Scalable system	yes Hitachi CTL/984 x 300 x 600-2,700 mm/yes 16, 13 x 100, 16, 13 x 75/16 yes yes/floor mounted/yes electricity/— multiple specimen (5) container per carrier/yes	yes —/950 x 2,000 x 530 mm/yes 16, 13 x 100, 16, 13 x 75, others/71.6 yes yes/floor and subfloor mounted/yes compressed air, electricity, water/weekly, monthly, quarterly, annually single specimen container per carrier/yes
Automated centrifugation available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5 • Maximum throughput/Containers device accommodates • Can identify tube types for custom programmed rate & spin times per run • More than one centrif. can be connected to track system • For multi-unit centrif., each centrif. operates independently for rate & time • Maintenance required Automated input/accessioning available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required Automated decapping available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required • Removes multiple size tube caps per run/ Removes screw type sample caps Automated sorting available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by Specimen integrity monitor available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required Automated aliquotting available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates • Inspects samples for bar code/Detects & reports clots in specimen • Detects & reports quantity not sufficient specimens/Maintenance required	yes Hitachi ACU/1,250 x 750 x 1,045 mm/yes 250 for 1 unit, 400 for 2/16, 13 x 100, 16, 13 x 75 no yes no daily, 5 minutes yes Hitachi IBM/1,065 x 970 x 1,045 mm/yes/600 16, 13 x 100, 16, 13 x 75/yes 300/— yes Hitachi DSP/1,250 x 450 x 1,045/yes/400 16, 13 x 100, 16, 13 x 75/— yes/yes yes Hitachi FSS/1,350 x 600 x 1,045 mm/yes/500 16, 13 x 100, 16, 13 x 75/specimen, method, output no — — yes Hitachi AQN/1,350 x 1,200 x 1,045 mm/yes/400p + 800a 16, 13 x 100, 16, 13 x 75 yes/yes yes/—	yes —/1,900 x 1,570 x 860 mm/yes 240/16, 13 x 100, 16, 13 x 75, others no yes yes weekly, monthly, quarterly, annually yes —/1,900 x 2,040 x 860 mm/yes/600 16, 13 x 100, 16, 13 x 75, others/yes 1,000/weekly, monthly, quarterly, annually yes —/included in centrifuge module/yes/240; independent module/600 16, 13 x 100, 16, 13 x 75, others/weekly, monthly, quarterly, annually yes/yes yes —/1,900 x 2,040 x 860 mm/yes/600 16, 13 x 100, 16, 13 x 75, others/specimen, method, output onboard each instrument integrated on chemistry instrument 16, 13 x 100, 16, 13 x 75, others/— no — — —
Instrument (analyzer) interfaces • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem Physical/hardware (instrument/specimen) interface • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis	yes yes no/point-of-reference sampling/point-of-reference sampling point-of-reference sampling/no	yes yes robotic arm interface/pt-of-ref. sampling/robotic arm interface pt.-of-ref. sampling & robotic arm interface/pt.-of-ref. sampling
Instruments to which your system/product is interfaced	Roche Hitachi Modular Analytics, Roche cobas 6000 analyzer series	Advia 120/2120, Advia Centaur/Centaur XP, Immulite 2000/2500, Advia 1650/1800/2400; Stago, Tosoh, Dade, Rxl [†] , CA-7000 [‡] , Dimension Vista [‡] Siemens: SMS; Dade: STM
Other robotic products/components to which system, product is linked	Stago coagulation	
Automated recapper or sealer available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Recaps-seals multiple size tubes simultaneously/Containers device accomm. • Maintenance required	recapper Hitachi RSP/1,280 x 450 x 1,045/yes/500 yes/13 x 100, 13 x 75 —	recapper in development —/—/—/— —/—/16, 13 x 100, 16, 13 x 75, others —
Automated storage & retrieval available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Containers device accommodates/Connects to the track • Room temperature/Min. & max. No. of tubes stored per module • Multiple size tubes can be stored in the same module/Maintenance required • Refrigerated storage & retrieval capability Longitudinal upgrade pathway or plan to protect users' investments Avg. time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly	yes (storage) —/1,350 mm x 600 mm x 1,045 mm/yes/500 16, 13 x 100, 16, 13 x 75/yes yes/300 tubes yes/no in development system can be extended or modified on-site to upgrade/change configuration <1 week/Roche/24/7 no/yes	yes —/1,900 x 2,040 x 860 mm/yes/600 16, 13 x 100, 16, 13 x 75, others/yes yes/1 & 1,000 yes/weekly, monthly, quarterly, annually in development flexible & expandable: can contain as few as 2 interfaced components-instruments and can expand to up to 16 interfaces configuration dependent/Siemens Healthcare Diagnostics/24/7 no/yes
List price Individual list prices for components • Process control SW/Transportation systems/Auto. centrifugation • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval • Specimen integrity monitor/Automated aliquot • Instrument (analyzer) interfaces/Automated recap	variable (please contact local lab automation design team for details) n/a n/a n/a n/a	varies by configuration — — — —
Distinguishing features * For basic bulding block unit ** Average throughput in specimen containers per hr per device	PMI project manager oversees installation; lab auto. design team; system manu. and custom designed to integrate seamlessly w/Roche Analytics; online/off-line aliquotting; small footprint; 8-12 min. processing time	broad menu delivers compl. core lab automa. offering; single LIS conn. w/autovalidation; reconfigure to fit lab's needs; flexible to fit lab space [†] available x-US, in development for US; [‡] in development

Laboratory automation systems and workcells

<p><i>Part 10 of 12</i></p>	<p>Siemens Healthcare Diagnostics Eric LaFleche 555 Benedict Avenue, Tarrytown, NY 10591 914-524-3823 www.siemens.com/diagnostics</p>	<p>Siemens Healthcare Diagnostics Eric LaFleche 555 Benedict Avenue, Tarrytown, NY 10591 914-524-3823 www.siemens.com/diagnostics</p>
<p>Name of system/First year installed/No. of 2007 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia</p>	<p>Advia WorkCell CDX/2002/15 105/86/22</p>	<p>StreamLab Analytical Workcell/2002/40 70/60/10</p>
<p>Automation products that are available</p> <ul style="list-style-type: none"> • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage-retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote sys. monitoring 	<p>yes/yes yes/yes/yes/yes yes/no/no/in development yes/yes yes/yes/closed yes/yes</p>	<p>yes/yes yes/yes/yes/yes yes/no/no/in development yes/yes yes/yes/open yes/yes</p>
<p>Software features/functionality</p> <ul style="list-style-type: none"> • Patient demographics & insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats & management reports • Evaluates validity & releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession No. redundancy (duplicate specimen ID) • Supports specimen carrier & level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • Routes test to workstation/Automatic reflex, repeat, dilutions • Supports multiple HW config./Supports other proprietary transport. HW • Sample storage & retrieval SW/Supports approved CLSI standards 	<p>LIS feature/automation SW feature automation SW feature/LIS feature automation SW feat./automation SW feat./automation SW feat automation SW feature automation SW feat./automation SW feat./automation SW feat. automation SW feature automation SW feature automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature</p>	<p>automation SW & LIS feature/automation SW feature automation SW feature/automation SW feature automation SW feat./ automation SW feat./ automation SW feat. automation SW feature automation SW feat./ automation SW feat./ automation SW feat. automation SW feature automation SW & LIS feature automation SW & LIS feature automation SW feature/automation SW feature automation SW & LIS feature/automation SW & LIS feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature</p>
<p>LIS(s) & versions interfaced & live w/LAS/How LIS(s) are interfaced w/your LAS</p>	<p>Siemens, Cerner, Meditech, SCC Soft, Misys, Data Innovations, OSI, Telepath-iSoft, Netlab, LMX, Antrim, Per Se, others/ASTM</p>	<p>Cerner, Meditech, SCC, Misys, CHCS, LabGem, Swiss Lab, Medicom, Izasa, Confidentialia, others/DBASTM, Dimension Protocol, HL7, ASTM</p>
<p>Transportation systems available</p> <ul style="list-style-type: none"> • Model/Dimen.* (H x W x D)/Conforms to CLSI Stand. Auto 1-5 • Containers device accommodates/Avg. throughput in cm per second • Supports automatic rerouting for reflex-repeat-dilutions • Modular HW/Installed options/Device can operate in track & manual mode • Required utilities/Required maintenance • Carrier type/Scalable system 	<p>yes —/950 x 2,000 x 530 mm/yes 16, 13 x 100, 16, 13 x 75, others/71.6 yes yes/floor & subfloor mounted/yes compressed air, electricity, water/weekly, monthly, quarterly, annually single specimen container per carrier/yes</p>	<p>yes StreamLab/60 x 70 x 35in/yes 16, 13 x 100, 16, 13 x 75/300 tubes per hour yes yes/floor mounted/yes compressed air, electricity/weekly single specimen container per carrier/yes</p>
<p>Automated centrifugation available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5 • Maximum throughput/Containers device accommodates • Can identify tube types for custom programmed rate & spin times per run • More than one centrif. can be connected to track system • For multi-unit centrif., each centrif. operates independently for rate & time • Maintenance required <p>Automated input/accessioning available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required <p>Automated decapping available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required • Removes multiple size tube caps per run/ Removes screw type sample caps <p>Automated sorting available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by <p>Specimen integrity monitor available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required <p>Automated aliquotting available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates • Inspects samples for bar code/Detects & reports clots in specimen • Detects & reports quantity not sufficient specimens/Maintenance required 	<p>yes —/1,900 x 1,570 x 860 mm/yes 240/16, 13 x 100, 16, 13 x 75, others no yes yes weekly, monthly, quarterly, annually yes —/1,900 x 2,040 x 860 mm/yes/600 16, 13 x 100, 16, 13 x 75, others/yes 1,000/weekly, monthly, quarterly, annually yes —/included in centrifuge module/yes/240; independent module/601 16, 13 x 100, 16, 13 x 75, others/weekly, monthly, quarterly, annually yes/yes yes —/1,900 x 2,040 x 860 mm/yes/600 16, 13 x 100, 16, 13 x 75, others/specimen, method, output onboard each instrument integrated on chemistry instrument 16, 13 x 100, 16, 13 x 75, others/— no — — —</p>	<p>yes StreamLab/31 x 23 x 29 in/yes up to 400 per hr/16, 13 x 100, 16, 13 x 75, handles various sizes simultan. yes no — weekly, monthly yes StreamLab/60 x 70 x 35 in/yes/300 tubes 16, 13 x 100, 16, 13 x 75/yes up to 600/daily, monthly yes StreamLab/integrated with input-output track/yes/300 16, 13 x 100, 16, 13 x 75/daily, monthly yes/yes yes StreamLab/integrated with input-output track/yes/300 16, 13 x 100, 16, 13 x 75/specimen, method, output yes StreamLab/integrated with analyzer/yes/300 16, 13 x 100, 16, 13 x 75/— yes StreamLab/integrated with sample transfer module/yes/300 16, 13 x 100, 16, 13 x 75 yes/yes yes/daily</p>
<p>Instrument (analyzer) interfaces</p> <ul style="list-style-type: none"> • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem <p>Physical/hardware (instrument/specimen) interface</p> <ul style="list-style-type: none"> • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis 	<p>yes yes no/pt-of-ref. sampling/no pt.-of-ref. sampling & robotic arm interface/no</p>	<p>yes yes no/pt-of-ref samp. & rob. arm interf./pt-of-ref samp. & rob. arm interf. pt-of-ref sampling & robotic arm interface/no</p>
<p>Instruments to which your system/product is interfaced</p> <p>Other robotic products/components to which system, product is linked</p>	<p>Advia Centaur/Centaur XP, Immulite 2000/2500, ADVIA 1650/1800/2400, Dade RxL[†], CA-7000[‡], Dimension Vista[‡] Siemens: SMS</p>	<p>Dimension RxL Max, Dimension Vista, Immulite 2000 & 2500; Sysmex CA 7000; Abbott Architect i2000, Advia Centaur (avail. outside U.S. only) —</p>
<p>Automated recapper or sealer available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Recaps-seals multiple size tubes simultaneously/Containers device accomm. • Maintenance required 	<p>recapper in development — —/—/16, 13 x 100, 16, 13 x 75, others —</p>	<p>yes StreamLAB/40 x 36 x 17 in/yes/300 yes/13 x 100, 13 x 75, 16 x 100, 16 x 75 daily, monthly</p>
<p>Automated storage & retrieval available</p> <ul style="list-style-type: none"> • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Containers device accommodates/Connects to the track • Room temperature/Min. & max. No. of tubes stored per module • Multiple size tubes can be stored in the same module/Maintenance required • Refrigerated storage & retrieval capability <p>Longitudinal upgrade pathway or plan to protect users' investments</p> <p>Avg. time to install/Who provides service, support/Hours support is available</p> <p>On-site biomedical engineer required/User group meets regularly</p>	<p>yes —/1,900 x 2,040 x 860/yes/600 16, 13 x 100, 16, 13 x 75, others/yes yes/1 & 1,000 yes/weekly, monthly, quarterly, annually in development flexible & expandable: basic models can expand to include 8 interfaces for pre- and post-analytic processing and current/future configuration dependent/Siemens Healthcare Diagnostics/24/7 no/yes</p>	<p>yes StreamLab SW & input-output module/—/yes/— 13 x 100, 13 x 75, 16 x 100, 16 x 75 (47,952 storage capacity)/no yes/up to 576 yes/— in development StreamLab systems are scalable with open configurations 5 days/Siemens/24/7 no/yes</p>
<p>List price</p> <p>Individual list prices for components</p> <ul style="list-style-type: none"> • Process control SW/Transportation systems/Auto. centrifugation • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval • Specimen integrity monitor/Automated aliquot • Instrument (analyzer) interfaces/Automated recap 	<p>varies by configuration — — — —</p>	<p>contact Siemens representative — — — —</p>
<p>Distinguishing features</p> <p><i>* For basic building block unit</i> <i>** Average throughput in specimen containers per hr per device</i></p>	<p>high throughput chem. & IA worksta. w/menu of >200 assays; single LIS conn. w/autovalidation; reconfig. to fit lab's needs; flexible to fit lab space [†]available x-U.S., in development for U.S.; [‡]in development</p>	<p>integrated automation solution with open architecture allows custom configuration and reconfiguraton by incorporating a 90-degree track turn that helps maintain a small footprint</p>

Tabulation does not represent an endorsement by the College of American Pathologists.

Laboratory automation systems and workcells

Part 11 of 12	Siemens Healthcare Diagnostics Eric LaFleche 555 Benedict Avenue, Tarrytown, NY 10591 914-524-3823 www.siemens.com/diagnostics	Sysmex America Inc. Nilam Patel pateln@sysmex.com 1 Nelson C. White Parkway, Mundelein, IL 60060 800-379-7639 ext. 4309 www.sysmex.com/usa
Name of system/First year installed/No. of 2007 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia	Dimension Lynx System/2005/20 28/25/—	HST-N/1991/50+ 195+/1,500+ (Europe, Asia, Latin America, Canada, & Australia)
Automation products that are available • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage-retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote sys. monitoring	yes/no yes/yes/yes/yes yes/no/no/in development yes/yes yes/yes/open yes/yes	no/no yes/no/no/no yes/no/—/no no/yes yes/yes/closed yes/yes
Software features/functionality • Patient demographics & insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats & management reports • Evaluates validity & releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession No. redundancy (duplicate specimen ID) • Supports specimen carrier & level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • Routes test to workstation/Automatic reflex, repeat, dilutions • Supports multiple HW config./Supports other proprietary transport. HW • Sample storage & retrieval SW/Supports approved CLSI standards	automation SW & LIS feature/automation SW feature automation SW feature/automation SW feature automation SW feat./ automation SW feat./ automation SW feat. automation SW feature automation SW feat./ automation SW feat./ automation SW feat. automation SW feature automation SW & LIS feature automation SW & LIS feature automation SW feature/automation SW feature automation SW & LIS feature/automation SW & LIS feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature	automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature /automation SW feature /LIS feature automation SW feature automation SW feature/automation SW feature/yes automation SW feature automation SW feature automation SW feature automation SW feature/automation SW feature n/a/n/a automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature
LIS(s) & versions interfaced & live w/ LAS/How LIS(s) are interfaced w/ your LAS	Cerner, Meditech, SCC, Misys, CHCS, LabGem, Swiss Lab, Medicom, Izaa, others/DBASTM, Dimension Protocol, HL7, ASTM	Cerner (Classic and Millenium), Misys, SCC, Meditech, GE/HL7 & ASTM
Transportation systems available • Model/Dimen.* (H x W x D)/Conforms to CLSI Stand. Auto 1-5 • Containers device accommodates/Avg. throughput in cm per second • Supports automatic rerouting for reflex-repeat-dilutions • Modular HW/Installed options/Device can operate in track & manual mode • Required utilities/Required maintenance • Carrier type/Scalable system	yes Lynx/60 x 70 x 35in/yes 16, 13 x 100, 16, 13 x 75/300 tubes per hour yes yes/floor mounted/yes compressed air, electricity/weekly single specimen container per carrier/yes	yes HSTN/depends on configuration/yes 16 x 75, 13 x 75/min throughput 150/hr; max as high as lab needs/hr yes yes/floor mounted/yes —/— rack/yes
Automated centrifugation available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5 • Maximum throughput/Containers device accommodates • Can identify tube types for custom programmed rate & spin times per run • More than one centrif. can be connected to track system • For multi-unit centrif., each centrif. operates independently for rate & time • Maintenance required Automated input/accessioning available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required Automated decapping available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required • Removes multiple size tube caps per run/ Removes screw type sample caps Automated sorting available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by Specimen integrity monitor available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required Automated aliquotting available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates • Inspects samples for bar code/Detects & reports clots in specimen • Detects & reports quantity not sufficient specimens/Maintenance required	yes Lynx/31 x 23 x 29 in/yes up to 400 tubes/16, 13 x 100, 16, 13 x 75 yes no — weekly, monthly yes Lynx/60 x 70 x 35 in/yes/300 tubes 16, 13 x 100, 16, 13 x 75/yes up to 600/daily, monthly yes Lynx/integrated with input-output track/yes/300 16, 13 x 100, 16, 13 x 75/daily, monthly yes/yes yes Lynx/integrated with input-output track/yes/300 16, 13 x 100, 16, 13 x 75/specimen, method, output yes Lynx/integrated with analyzer and sample transfer monitor/yes/300 16, 13 x 100, 16, 13 x 75/— yes Lynx/integrated with sample transfer module/yes/300 16, 13 x 100, 16, 13 x 75 yes/yes yes/daily	no — — — — — yes —/—/—/— —/— 200 samples per input module/— no — — yes PVT TS1000 & TS500/TS1000: 5'9" x 4'6" x 3'3"; TS500: 5'15" x 3'16" x 3 x 75/specimen, method, output yes (located within the analyzers) —/—/—/— —/— no — — — —
Instrument (analyzer) interfaces • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem Physical/hardware (instrument/specimen) interface • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis	yes yes no/pt-of-ref samp. & rob. arm interf./pt-of-ref samp. & rob. arm interf. pt-of-ref sampling & robotic arm interface/no	yes yes point-of-reference sampling/—/— —/—
Instruments to which your system/product is interfaced Other robotic products/components to which system, product is linked	Dimension RxL Max, Immulite 2000 & 2600 —	Bio-Rad Variant II Turbo Link A1C analyzer Thermo automation, Lab Interlink/Labotix, IDS
Automated recapper or sealer available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Recaps-seals multiple size tubes simultaneously/Containers device accomm. • Maintenance required	sealer in development Lynx/40 x 36 x 17 in./yes/300+ yes/16, 13 x 100, 16, 13 x 75 daily, monthly	no — — —
Automated storage & retrieval available • Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* • Containers device accommodates/Connects to the track • Room temperature/Min. & max. No. of tubes stored per module • Multiple size tubes can be stored in the same module/Maintenance required • Refrigerated storage & retrieval capability Longitudinal upgrade pathway or plan to protect users' investments	yes Lynx SW & input-output module/n/a/yes/n/a yes/16, 13 x 100, 16, 13 x 75 (47,952 storage capacity)/no yes/up to 576 yes/n/a no Lynx systems are scalable with open configurations	no — — — — — —
Avg. time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly	5 days/Siemens/24/7 no/yes	3-5 days/Sysmex/24/7 no/no
List price Individual list prices for components • Process control SW/Transportation systems/Auto. centrifugation • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval • Specimen integrity monitor/Automated aliquot • Instrument (analyzer) interfaces/Automated recap	contact Siemens representative — — — —	depends on configuration — — — —
Distinguishing features	connection to easy, entry-level automation; connects proven technology of the Dimension RxL Max integrated chemistry system and the Immulite 2000 & 2600 immunoassay systems; can be converted easily into a StreamLab as needs change	scalable, flexible, and reliable automation and instrument systems; fast implementation (5 days); scalable multi-site, multi-system middleware solutions that are developed, tested, and supported by Sysmex

* For basic building block unit

** Average throughput in specimen containers per hr per device

Laboratory automation systems and workcells

<i>Part 12 of 12</i>	Sysmex America Inc. Nilam Patel pateln@sysmex.com 1 Nelson C. White Parkway, Mundelein, IL 60060 800-379-7639 ext. 4309 www.sysmex.com/usa	Thermo Fisher Scientific Janne Järvinen sales.cca.fi@thermofisher.com Ratastie 2. P.O. Box 100 FI-01621, Vantaa, Finland +358 9 329100 www.thermo.com
Name of system/First year installed/No. of 2007 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia	XE-Alpha N/1991/30 140+/300+/-	TCAutomation/2000/- 9/70/-
Automation products that are available		
<ul style="list-style-type: none"> Pre-analytical processor/Total laboratory automation Automated functions: Accessioning/Track load/Centrifugation/Decapping Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing Automated functions: Storage-retrieval/Intelligent sample routing SW: Dedicated Process Control/Middleware control using LIS/Architecture Company has dedicated automation support team/Remote sys. monitoring 	—/— yes/—/no/no yes/no/—/no no/— yes/yes/closed yes/—	—/— yes/—/yes/yes yes/yes/—/yes in development/— yes/yes/open yes/—
Software features/functionality		
<ul style="list-style-type: none"> Patient demographics & insurance data/Rules-based architecture Supports data retrieval/Internet connectivity Online real-time help system/QC/Stats & management reports Evaluates validity & releasability of results from automated analyzers Specimen tracking/Priority processing/Random-access spec. movement Supports accession No. redundancy (duplicate specimen ID) Supports specimen carrier & level identification Unique bar-code number per container required Specimen routing/Multistop routing (one tube to multiple workstations) Specimen scheduling/Instrument scheduling Routes test to workstation/Automatic reflex, repeat, dilutions Supports multiple HW config./Supports other proprietary transport. HW Sample storage & retrieval SW/Supports approved CLSI standards 	n/a/automation SW feature automation SW feature/LIS feature automation SW feature /automation SW feature /LIS feature automation SW feature automation SW feature/automation SW feature/n/a automation SW feature automation SW feature automation SW feature/automation SW feature n/a/n/a automation SW feature/automation SW feature n/a/automation SW feature n/a/n/a	LIS feature/LIS feature automation SW feature/automation SW feature n/a/LIS feature/automation SW feature LIS feature automation SW feat./automation SW feat./automation SW feat. automation SW & LIS feature automation SW feature automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature LIS feature/LIS feature automation SW feature/— automation SW feature/—
LIS(s) & versions interfaced & live w/ LAS/How LIS(s) are interfaced w/ your LAS	Cerner (Classic and Millennium), Misys, SCC, Meditech, GE/HL7 & ASTM	—/HL7
Transportation systems available		
<ul style="list-style-type: none"> Model/Dimen. * (H × W × D)/Conforms to CLSI Stand. Auto 1-5 Containers device accommodates/Avg. throughput in cm per second Supports automatic rerouting for reflex-repeat-dilutions Modular HW/Installed options/Device can operate in track & manual mode Required utilities/Required maintenance Carrier type/Scalable system 	yes AlphaN/2 × 7.3 × 3.4 feet 16 × 75, 13 × 75/based on No. of analyzers no yes/—/yes —/— rack/no	yes —/various lengths between 600–2400 mm/yes 16, 13 × 100, 16, 13 × 75/10 yes yes/floor mounted/yes compressed air, electricity/annually single specimen container per carrier/yes
Automated centrifugation available		
<ul style="list-style-type: none"> Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5 Maximum throughput/Containers device accommodates Can identify tube types for custom programmed rate & spin times per run More than one centrif. can be connected to track system For multi-unit centrif., each centrif. operates independently for rate & time Maintenance required 	no — — — — —	yes —/1,900 × 1,200 × 1,375 mm/— 400/13 × 100, 13 × 75 yes yes no quarterly yes
Automated input/accessioning available		
<ul style="list-style-type: none"> Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** Containers device accommodates/Dedicated lanes for stat samples Maximum No. of samples that can be loaded/Maintenance required 	no —/—/—/— —/no 200 samples per input module/—	yes —/1,900 × 1,200 × 965 mm/—/500 16, 13 × 100, 16, 13 × 75/yes 600/annually yes
Automated decapping available		
<ul style="list-style-type: none"> Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** Containers device accommodates/Maintenance required Removes multiple size tube caps per run/ Removes screw type sample caps 	no — — —	yes decapper module/1,600 × 600 × 965 mm/—/500 16, 13 × 100, 16, 13 × 75/annually yes/yes
Automated sorting available		
<ul style="list-style-type: none"> Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** Containers device accommodates/Software can sort by 	no —/—/yes/— —/—	yes Rack Exit/1,900 × 1,200 × 965 mm/—/500 16, 13 × 100, 16, 13 × 75/specimen, method
Specimen integrity monitor available		
<ul style="list-style-type: none"> Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** Containers device accommodates/Maintenance required 	yes (located within the analyzers) —/—/—/— —/—	no — —
Automated aliquotting available		
<ul style="list-style-type: none"> Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** Containers device accommodates Inspects samples for bar code/Detects & reports clots in specimen Detects & reports quantity not sufficient specimens/Maintenance required 	no — — —	yes —/1,900 × 1,500 × 965 mm/—/up to 200 secondary tubes 16, 13 × 100, 16, 13 × 75/specimen, method yes/yes yes/quarterly
Instrument (analyzer) interfaces		
<ul style="list-style-type: none"> Rules-based instrument interface control subsystem Process control of instrument via control subsystem 	no no	— —
Physical/hardware (instrument/specimen) interface		
<ul style="list-style-type: none"> Hematology/Chemistry/Coagulation Immunoassay/Urinalysis 	—/—/— —/—	rob. arm inter./pt.-of-ref. samp. & rob. arm inter./rob. arm inter. point-of-reference sampling/—
Instruments to which your system/product is interfaced	—	Konelab Prime, Vitros 5.1 FS, Advia 1650/1800/2400, Advia Centaur Abbott Architect i2000, Beckman Coulter DXi, Roche Modular, SMS/Immolute 2000/2500, Sysmex HST
Other robotic products/components to which system, product is linked	—	—
Automated recapper or sealer available		
<ul style="list-style-type: none"> Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** Recaps-seals multiple size tubes simultaneously/Containers device accomm. Maintenance required 	no — — —	recapper recapper module/1,600 × 600 × 965 mm/—/500 yes/16, 13 × 100, 16, 13 × 75 annually
Automated storage & retrieval available		
<ul style="list-style-type: none"> Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** Containers device accommodates/Connects to the track Room temperature/Min. & max. No. of tubes stored per module Multiple size tubes can be stored in the same module/Maintenance required Refrigerated storage & retrieval capability Longitudinal upgrade pathway or plan to protect users' investments 	no — — — — —	in development — — — — —
Avg. time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly	3 days/Sysmex/24/7 no/no	1–2 weeks/local distributor & Thermo Fisher/varies no/no
List price	depends on configuration	—
Individual list prices for components		
<ul style="list-style-type: none"> Process control SW/Transportation systems/Auto. centrifugation Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval Specimen integrity monitor/Automated aliquot Instrument (analyzer) interfaces/Automated recap 	— — — —	— — — —
Distinguishing features	scalable and flexible configurations with proven history; 3-day installation; scalable middleware solutions are developed & supported by Sysmex	modular system can be customized; both workcell and pre-analytical part can be upgraded and linked; multi-tube carrier with programmable chip; open—can be linked to different analyzers
* For basic bulding block unit		
** Average throughput in specimen containers per hr per device		