Experience Sharing:
POC Organizational Models in the world

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Objective of the Presentation

Share with the audience the various approaches adopted in the POC implementation in various countries and how the IVD industry can support such approaches.

"Always observe the organization of the customers and the consequent needs of the various users."

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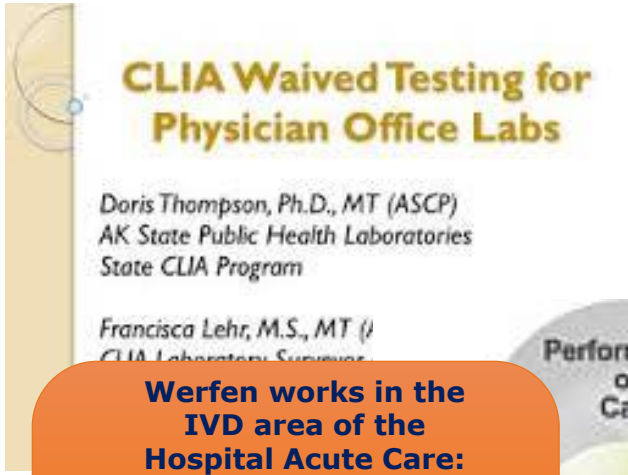
Some definitions…just to be aligned!!!

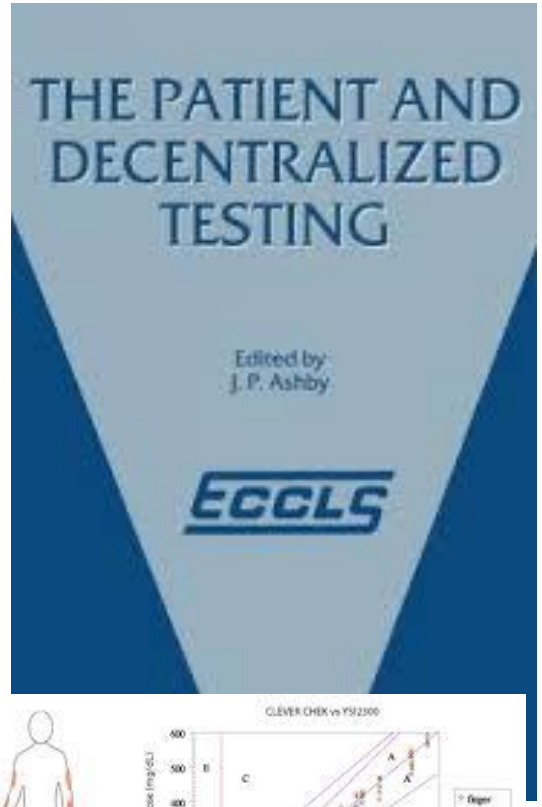
…when talking about decentralized testing, there is a lot of confusion!

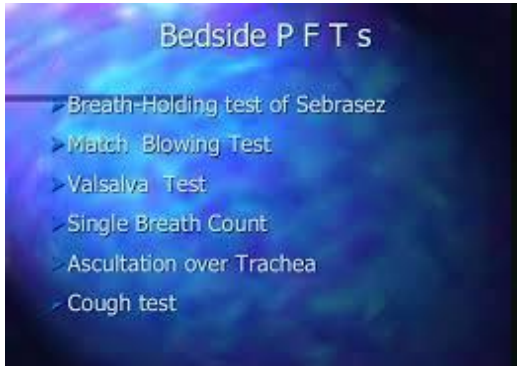
Extra Laboratory Testing

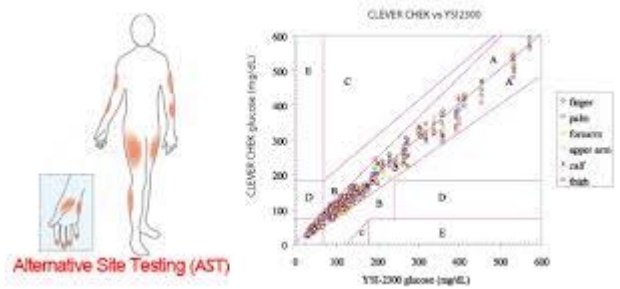


Werfen works in the IVD area of the Hospital Acute Care: Intensive Care Units, Cardiac Care Units, Emergencies, Laboratory, Neonatal pathologies…

Where the critically ill patient is treated







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Some basic definitions...just to be aligned

Centralized Area

- Any laboratory where the patient's tests are run according to the requests of the various hospital wards
- The user does not "see" the patient in the majority of the cases

Remote Area

- Any hospital ward (ICU, NICU, CCU…), where the critically ill patient is present and treated
- The user "sees" the patient and is in thouch with him/her 24/24
- BG/Lytes/Glu/Lac/CO-Ox and all "time-sensitive" tests are needed in the shortest time as possible

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Once upon a time (in Europe)

All IVD instruments (also the ones needed for the critical patient) located in the Central Laboratory

This allowed the Laboratory Manager to make the technical controls on all instruments and make sure that the Quality Control was properly managed.

The hospital resources allowed the Blood Gas samples to be drawn by expert personnel and timely transported to the laboratory

Min need: record the history of the Quality Control results on a digital substrate rather than on paper.

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More recent Times…(1995-2005)

Less and less resources can warrantee the TAT (Turn Around Time) within acceptable timing for the clinicians in the ICU.

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Organizational Models in the world: examples and experiencies

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Healthcare systems show significant variations all over the world

Europe:	Healthcare systems generally based upon a “universal” approach.
USA/LatAM:	Significant Gap between private and public institutions
APAC/Japan:	Trying to have a good balance between public and private healthcare

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The “Emergency Tests” for the Critical Care Patient

Yesterday

- Specific section of the Central Laboratory
- Managed by specialized personnel that followed the entire sampling process
- Almost magic ... Very few expert people (no POC coordinators, IT managers ...)

Today

- Many instruments decentralized in remote areas
- Many people involved in the overall management of Blood Gas analysis (Clinicians, Laboratory, IT Manager, POC coordinator, Administration…)
- Complex dynamics within each hospital
- More and more regulations…

TAT!!!

Quality of results does not depend from user’s experience!!!

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Organizational Models more frequently encountered

- POC instruments in the Central Laboratory
- POC instruments in the Emergency Laboratory
- BG Instruments in the Respiratory Therapy Unit
- POC instruments directly installed in the ICU, CCU, Neonatal ICU… directly where the critical patient is treated.

The perfect POC organizational model does not exist…

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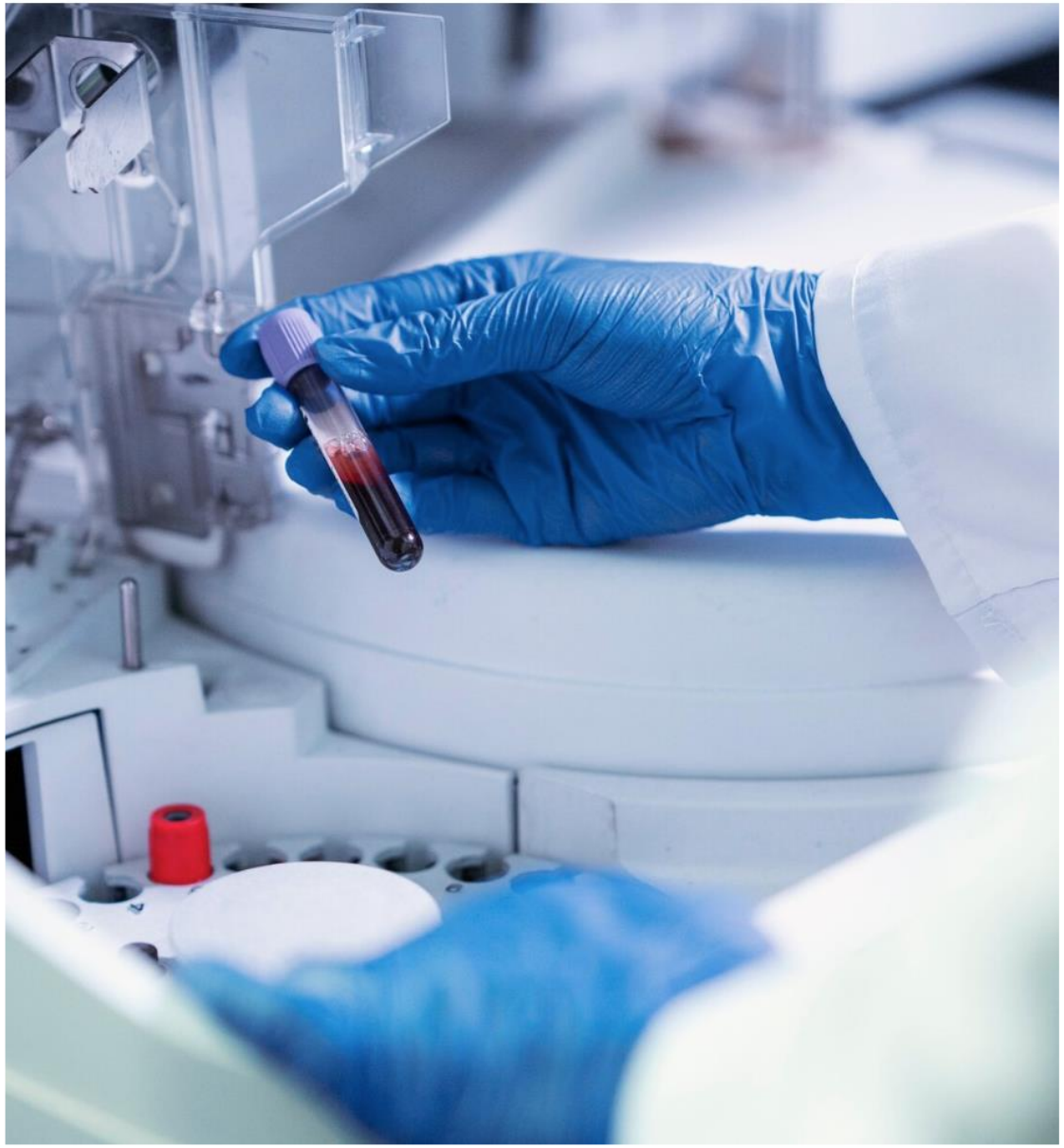
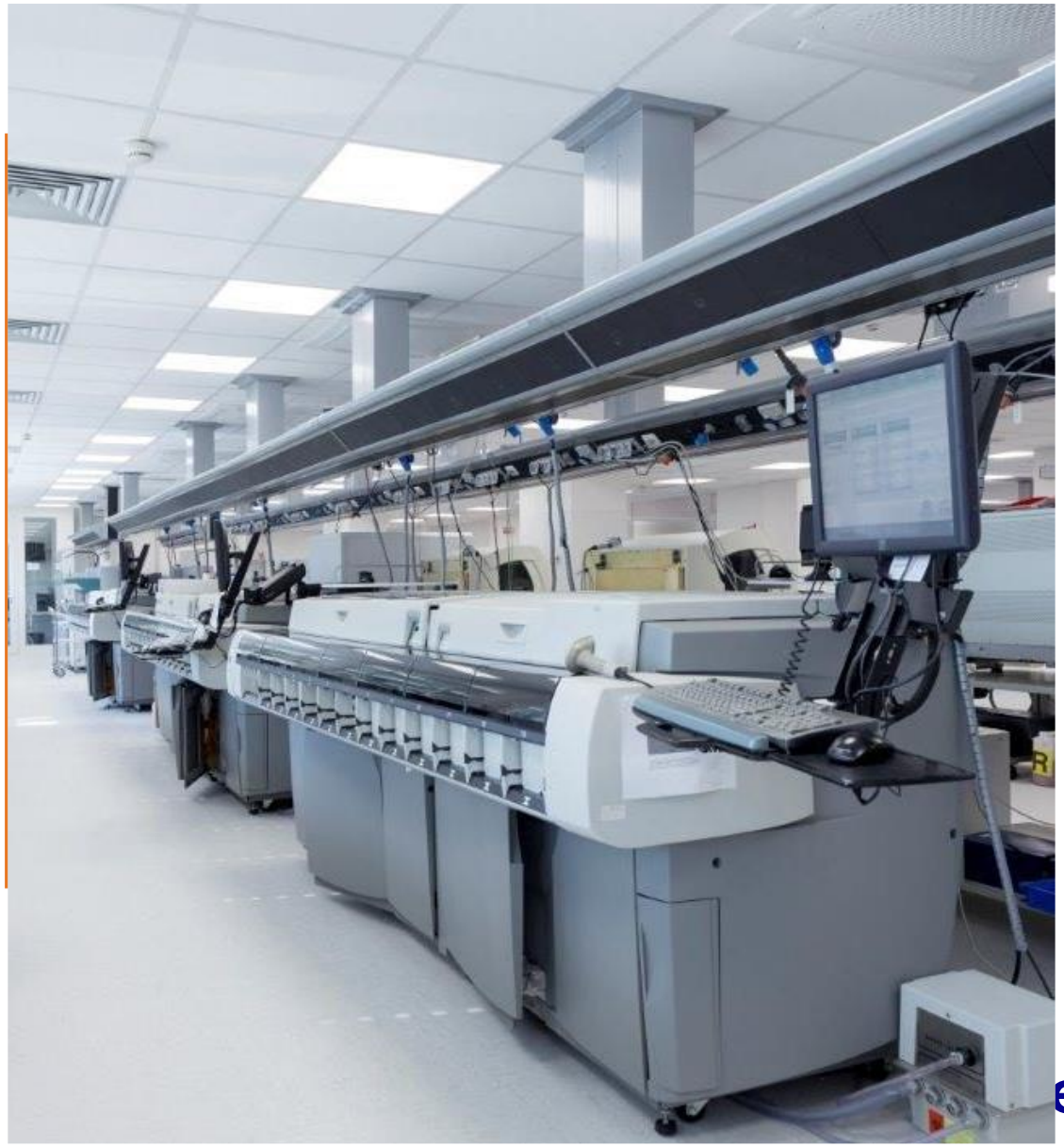
POC Instruments in the Central Lab





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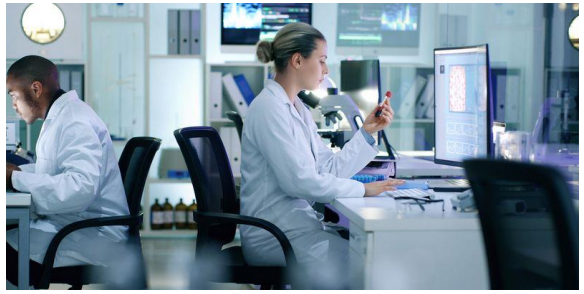
POC Instruments in the Stat Lab

Advantages

- The analyzer is directly controlled by the Lab personnel (technical validation)
- The ICU personnel is 100% dedicated to the patient (efficiency)
- Documentation related to the analyzer and the patients centralized and tracked.
- Reduced TAT with respect to the Laboratory

Challenges

- No control over the whole BG process
- Preanalytical phase?
  (syringes, heparin, temperature, sample transportation)
- Costs?



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POC Instruments in the Respiratory Therapist Units (USA and some countries in SEA/APAC)

Advantages

- The analyzer is directly controlled by the respiratory therapist (technical validation)
- Pre-analytical phase is 100% under control
- The ICU personnel is 100% dedicated to the patient (efficiency)
- Documentation related to the analyzer and the patients centralized and tracked.

Challenges

- Costs?
- TAT?

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POC Instruments directly installed in the Hospital ward (ICU, CCU, NICU, Operating room...)

Advantages

- TAT (all the process is completed within 2-3 minutes from the sample drawing)
- Immediate integration of the POC results with other data used in the ICU
- It is possible to take immediate action with the patient

Challenges

- Control of the preanalytical phase?
- Users' training?
- Accreditation process?
- Documentation?
- Control of the whole process?

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% of BG instalations in the Central or Remote areas of the Hospital over the time...

	1970		1980		1990		2000 and beyond	
	Central	Remote	Central	Remote	Central	Remote	Central	Remote
Germany	90%	10%	40%	60%	25%	75%	10%	90%
Italy	90%	10%	50%	50%	20%	80%	10%	90%
UK	60%	40%	40%	60%	20%	80%	10%	90%
Spain	90%	10%	80%	20%	70%	30%	40%	60%
France	90%	10%	80%	20%	70%	30%	40%	60%
Scandinavia	80%	20%	70%	30%	60%	40%	30%	70%

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This decentralization brought about new needs....

- The laboratory manager became resposnible of all IVD instruments of the hospital, even if these analyzers are NOT installed in the laboratory.
- Need to verify the instrument status
- Need to verify from remote the QC data, statistics and trend.
- Need to remotely see the calibration data
- Need to store the patient's data to support the clinicians.
- …

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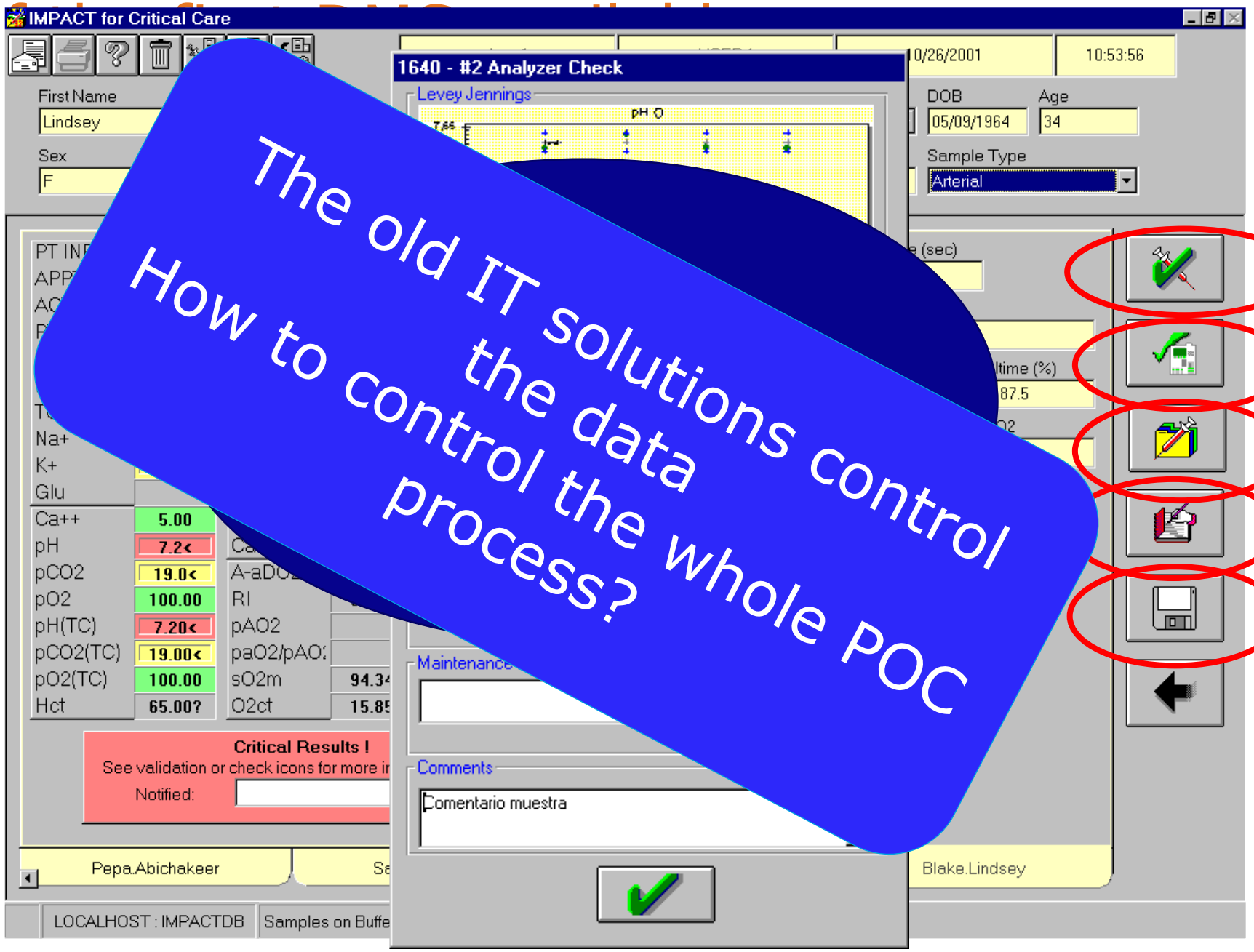

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Here is a Blood Gas process today...

Corrective Actions

Critical Patient: Sample collection

- Correct patient identification
- Adequate sampling site
- Type of syringe
- Type and concentration of anti-coagulant
- Sample quality (no bubbles, hemolysis, clots …)

Sample Transportation

- Time
- Temperature
- Potential contamination

Analitical Phase

- Quality Control
- Corrective Actions
- Appropriate use of technology
- Correct identification of the patient
- Verify the sample quality (no air bubbles, hemolysis, clots)
- Adequate sample mixing
- Patient's history

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The most common trends observed in the world…

- Hospital Institutions are requested to do more with less…
- Less and less resources that can be dedicated to the technology
- In particular, les and less people dedicated to work with life-saving technologies like the Blood gas analyzers.

Can we do something more for the healthcare operators?

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If the Whole Process is to be controlled, these are the macro-areas to consider

- **Technical Control of the Analyzers** (QC trends and statistics, Patients' data, Instrument Status in real time, Remote control of the analyzers)

- **Educational Process** (update of all training and maintenance run for the users located in the various hospital wards, certification and authorization of the various users, identification of areas of improvements...)

- **Process Management** (administration of users and analyzers, workload of each analyzer and potential rationalization, workload for each user, accreditation, management of the analytical profiles...)

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GEMweb Plus 500

Data Management Software designed for hospital acute care settings which simplifies and centralizes the management of Werfen Acute Care analyzers focusing on:

- Device and Data Management
- Operator Management
- Documentation and Accreditation

Single dashboard, assuring patient safety, quality management and compliance.

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GEMweb Plus 500

Data Management Software designed for hospital acute care settings which simplifies and centralizes the management of Werfen Acute Care analyzers focusing on:

Point-of-Care Testing

Device and Data Management

Operator Management

Laboratorian

POCC

Documentation and Accreditation Support

Hospital IT

IT Requirements, Cybersecurity, Software Lifecycle Management

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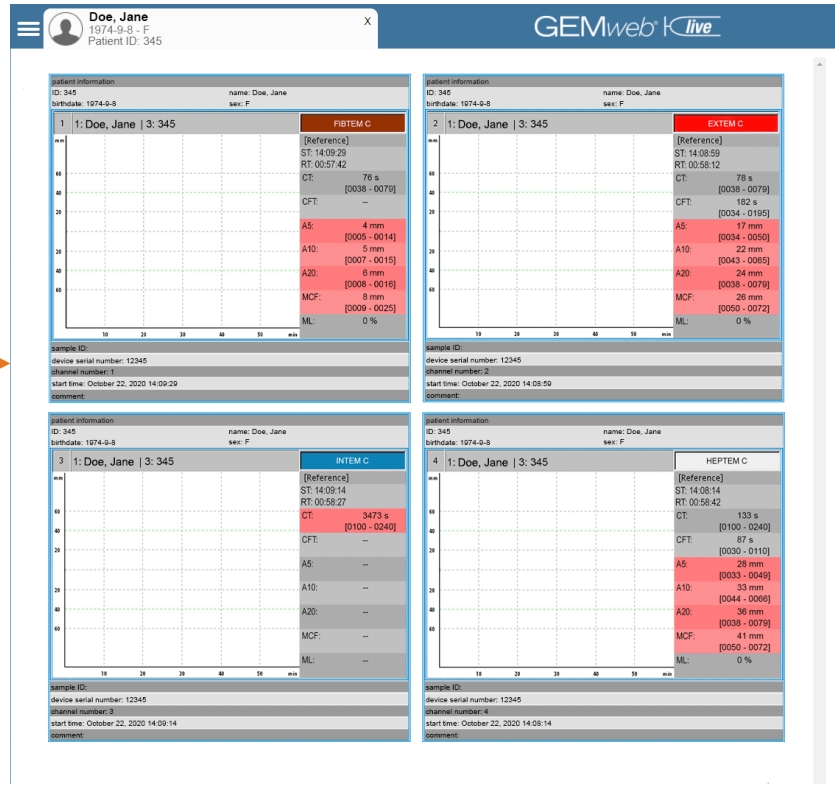
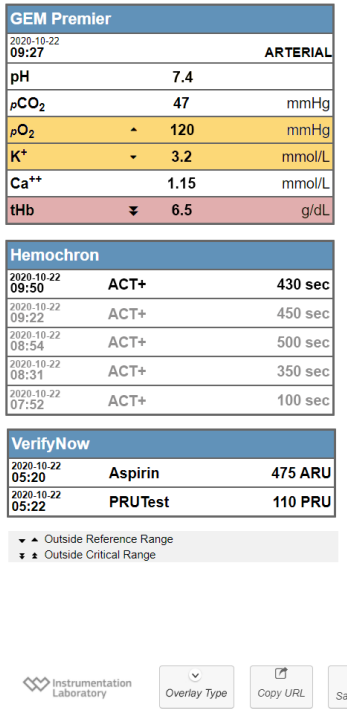
When the analyzers are in the Central Lab: all results in one shot and in real time

NEW





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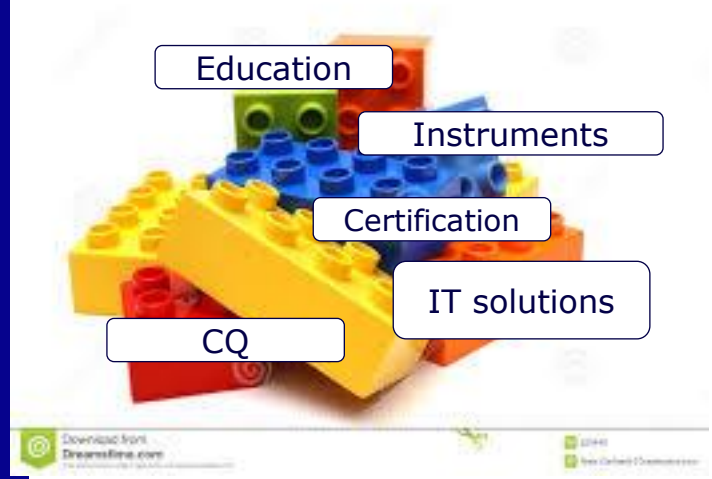
GEMWeb PLUS / GEMWeb Live



Solution for Customer 1

Solution for Customer 2

Solution for Customer 3

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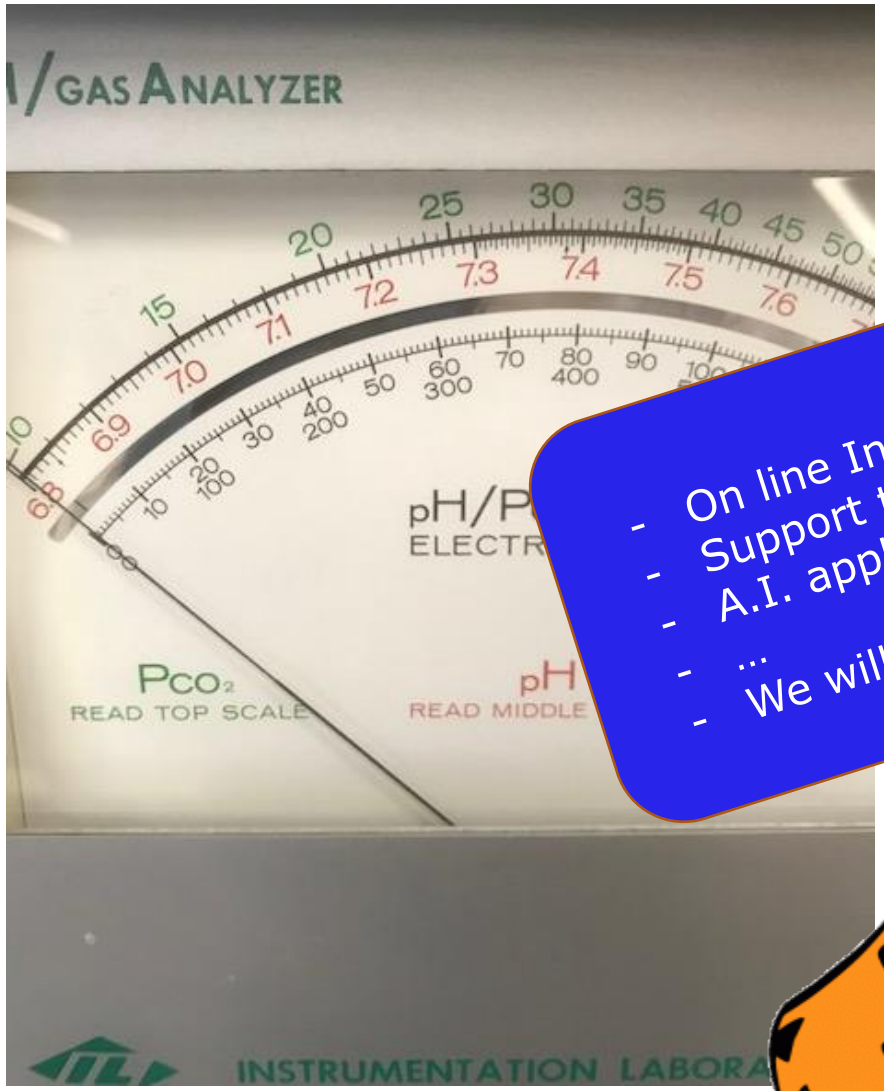
IT Solutions… the future?



- On line Interactive training?
- Support to results interpretation?
- A.I. applications?
- …
- We will develop it together…

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tapadh leat
thank you
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passibo
aitäh
paldies
ačiū
spasíbo
räxmät
raxmet
dzjákuju
dank je
danke
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