

# PT goes on-line



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*Eurachem 5th workshop Proficiency Testing, Portoroz, 27 September 2005*

**I will not.....**

*.....Take you on a clicking-tour  
through an Endless series of Screens*

*.....Nor will I give an introduction  
to the IT Buzzword Vocabulary*

**...But invite you to speculate on  
this Carriage**



# Mercedes Benz 1893!



## *PT goes on-line*

### **PT-organisers:**

**do you want to drive a carriage or a car?**

- Philosophic dialogue on what the impact of Internet can be on you as PT organiser
- Choices you have to make to go “on-line” as PT organiser
- Technical requirements
- Choices I made as PT organiser: examples of websites

# What is it all about?

Purpose  
Executive Authority  
Design (information/instruction)

*In the Beginning*

<i>Specimens</i>	<i>Data</i>
Stability Commutability Shipment	Submission Calculations Preparing Reports Multiplication Sending Reports Archives

*Executive  
Work*

Approval Labs  
Education/User Meetings

*At the End*

# The Sixties.....

Purpose  
Executive Authority  
Design (information/instruction)

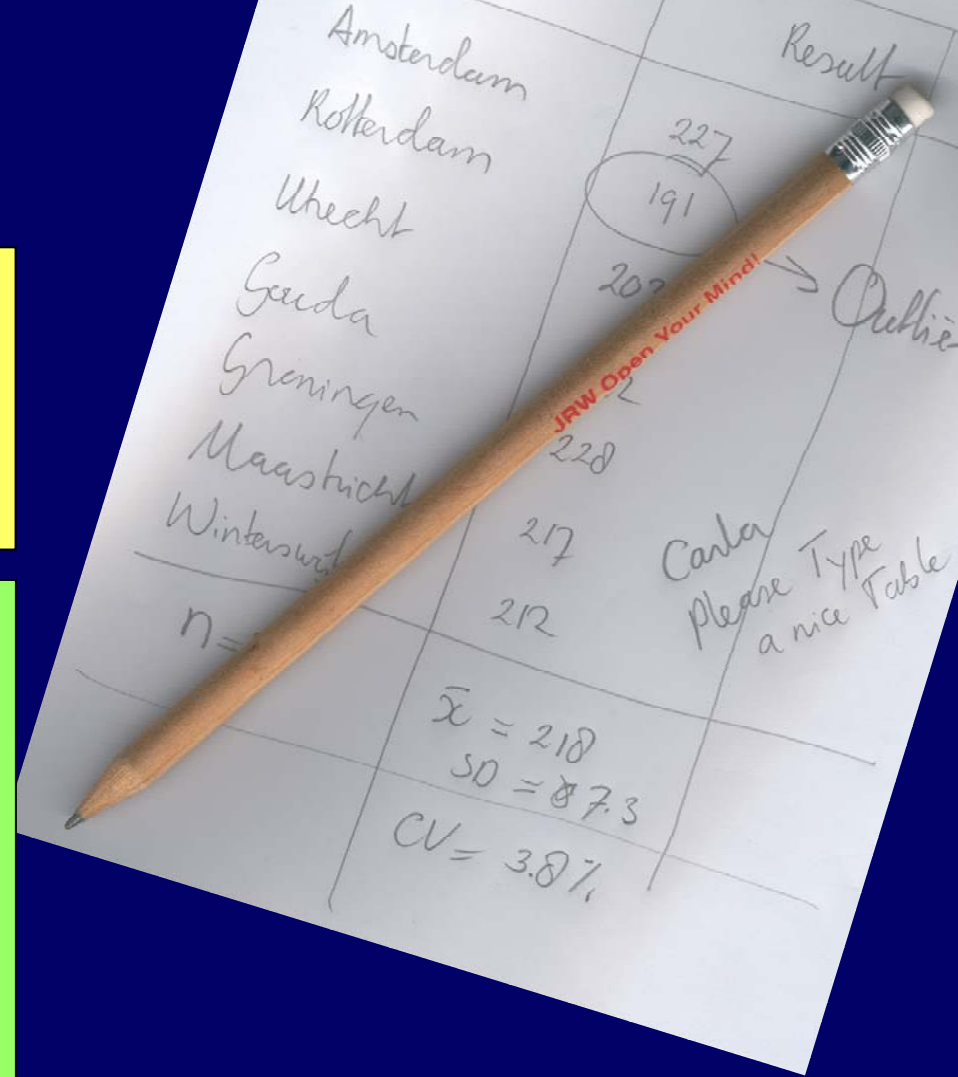
## *Specimens*

Stability  
Commutability  
Shipment

## *Data*

Submission  
Calculations  
Preparing Reports  
Mutiplication  
Sending Reports  
Archives

Approval Labs  
Education/User Meetings



.....Manual

# The Seventies.....

Purpose  
Executive Authority  
Design (information/instruction)

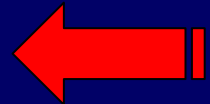
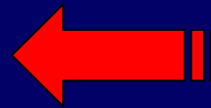
## *Specimens*

Stability  
Commutability  
Shipment

## *Data*

Submission  
Calculations  
Preparing Reports  
Multiplication  
Sending Reports  
Archives

Approval Labs  
Education/User Meetings



*Pocket Calculator*  
*Photo Copier*



# The Eighties/Nineties.....

Purpose  
Executive Authority  
Design (information/instruction)

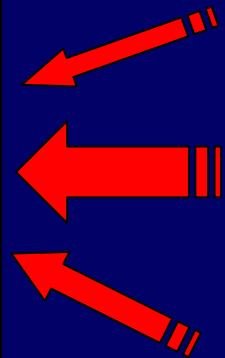
## *Specimens*

Stability  
Commutability  
Shipment

## *Data*

Submission  
Calculations  
Preparing Reports  
Multiplication  
Sending Reports  
Archives

Approval Labs  
Education/User Meetings



*PC*  
*Advanced Printers*

2000.....

Purpose  
Executive Authority  
Design (information/instruction)

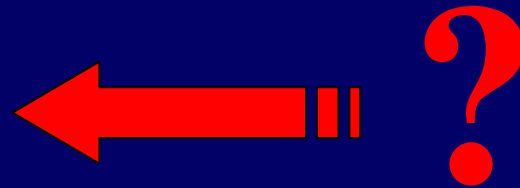
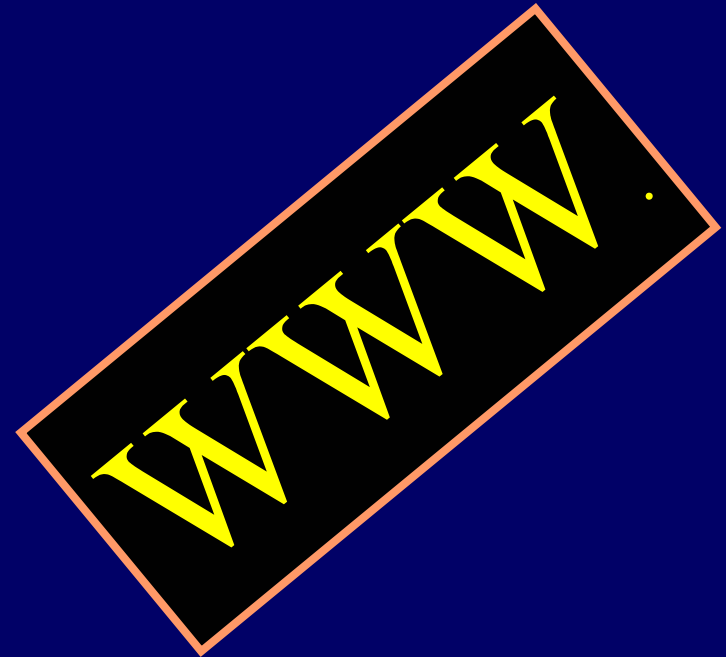
*Specimens*

*Data*

Stability  
Commutability  
Shipment

Submission  
Calculations  
Preparing Reports  
Multiplication  
Sending Reports  
Archives

Approval Labs  
Education/User Meetings



*Internet*

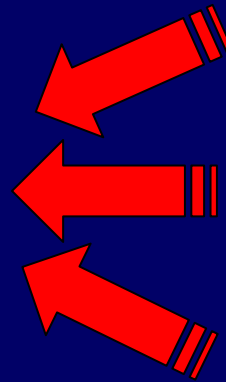
# Internet: Options

Purpose  
Executive Authority  
Design (information/instruction)

<i>Specimens</i>	<i>Data</i>
Stability Commutability Shipment	Submission Calculations Preparing Reports Multiplication Sending Reports Archives

Approval Labs  
Education/User Meetings

Like in the Old Days:  
Internet can do:  
-Calculations  
-Preparing Reports  
-Multiplication

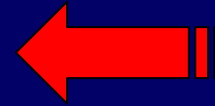


*Thus, Nothing New*

# Internet: Options

Purpose  
Executive Authority  
Design (information/instruction)

With  
Name and Password  
Participants can  
Submit Results



*Paper Out*

<i>Specimens</i>	<i>Data</i>
Stability Commutability Shipment	Submission Calculations Preparing Reports Multiplication Sending Reports Archives

Approval Labs  
Education/User Meetings

*New: Yes*  
*Revolutionary: No*

# Internet: Options

Purpose  
Executive Authority  
Design (information/instruction)

## *Specimens*

Stability  
Commutability  
Shipment

## *Data*

Submission  
Calculations  
Preparing Reports  
Multiplication  
Sending Reports  
Archives

Approval Labs  
Education/User Meetings



*New: Yes*  
*Revolutionary: That Depends*

# Reports: Carriage Way of Thinking

Purpose  
Executive Authority  
Design (information/instruction)



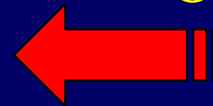
## *Specimens*

Stability  
Commutability  
Shipment

## *Data*

Submission  
Calculations  
Preparing Reports  
Multiplication  
Sending Reports  
Archives

Send Reports by e-mail  
To Quality Officers  
Of Participating Labs



Approval Labs  
Education/User Meetings

*New:*

*Yes*

*Revolutionary:*

*No*

# Consequences

Scheme Organiser: 200 labs, 25 schemes, 10 reports/year

Implication:

Scheme Organiser sends  $200 \times 25 \times 10 = 50.000$  reports/year

Each of the 200 individual Quality Officers of labs receives  $25 \times 10$  reports a year and has to store them

- a. Print them and store in classical files
- b. Download in digital archive

This is a lot of work. And what if you as organiser make a slight change in the reports

- throw it all away (in all labs) and Send again (to all labs), store again (in all labs)?

# Reports: Limousine Way of Thinking

Purpose  
Executive Authority  
Design (information/instruction)



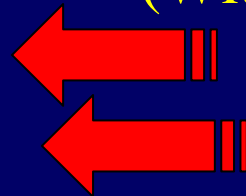
## *Specimens*

## *Data*

Stability  
Commutability  
Shipment

Submission  
Calculations  
Preparing Reports  
Multiplication  
Sending Reports  
Archives

- See relation with Archives
- Do not send reports anymore
- Let labs request reports  
(With name and password)



Approval Labs  
Education/User Meetings

*New:* Yes  
*Revolutionary:* Yes



# Consequences

Scheme Organiser: 200 labs, 25 schemes, 10 reports/year

Implication:

Scheme Organiser sends 0 reports

Individual Quality Officers requests reports from Internet

- To screen recent reports
- To discuss with managers/analytical staff (own access?)
- To show auditors
- Easy switch to previous scheme, previous year to check trends

Either on the screen of a PC or PC/beamer

In the lab not only paper is out but also the making of archives

# Summary Internet/Data-handling

Purpose  
Executive Authority  
Design (information/instruction)

Internet can do part of or total data-handling

Internet most effective when All data handling is done:

<i>Specimens</i>	<i>Data</i>
Stability	Submission
Commutability	Calculations
Shipment	Preparing Reports
	Multiplication
	Sending Reports
	Archives

- Submission  
(*paper submission forms out*)
- Sending reports  
(*de-centralised: request by labs*)

- Archives  
(*centralized scheme organiser*)

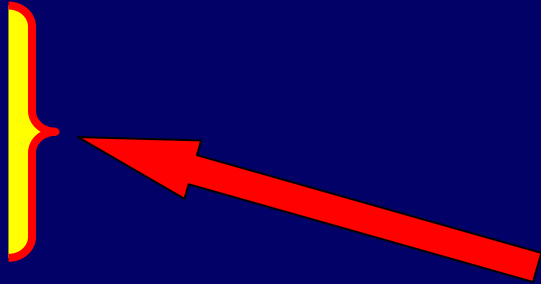
Approval Labs  
Education/User Meetings

# Further with Speculation .....

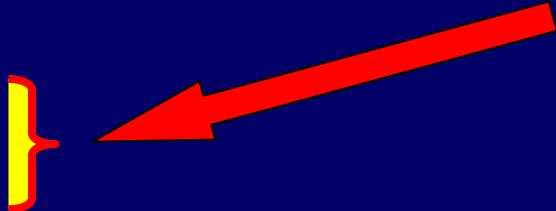
Purpose  
Executive Authority  
Design (information/instruction)

<i>Specimens</i>	<i>Data</i>
Stability Commutability Shipment	Submission Calculations Preparing Reports Multiplication Sending Reports Archives

Approval Labs  
Education/User Meetings

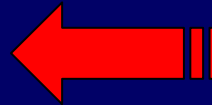
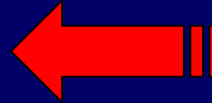


.....And Thoughts  
On the impact of  
Internet on the  
Non-executive  
Aspects of PT



# Internet and Design of PT

Purpose  
Executive Authority  
Design (information/instruction)



*Specimens*

*Data*

Stability  
Commutability  
Shipment

Submission  
Calculations  
Preparing Reports  
Multiplication  
Sending Reports  
Archives

Approval Labs  
Education/User Meetings

No delays

In submission/reporting

*Real time reports*

Purpose: not only PT

But also, in addition to

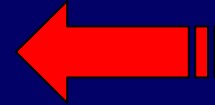
Internal QC,

Management tool for

Day-to-day management lab

# Internet and Executive Authority

Purpose  
Executive Authority  
Design (information/instruction)



Internet requires  
Sophisticated Hardware,  
Software and Staff  
Which is costing

Along with the trends of  
Increasing quality demands  
PT organiser (accreditation)  
and Europeanisation....

Executive Authorities  
Might think of Collaboration

<i>Specimens</i>	<i>Data</i>
Stability Commutability Shipment	Submission Calculations Preparing Reports Multiplication Sending Reports Archives

Approval Labs  
Education/User Meetings

# Internet: The way to Approval

Purpose  
Executive Authority  
Design (information/instruction)

<i>Specimens</i>	<i>Data</i>
Stability Commutability Shipment	Submission Calculations Preparing Reports Multiplication Sending Reports Archives

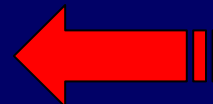
Approval Labs  
Education/User Meetings

## *Auto-approval*

At user level Reports can be Extended with Statements of Approval or digital certificates

## *Information Manual Approval*

At organiser level performance Lists can be generated as basis For certificates and/or Warning letters



# Internet: Education/User Meetings

Purpose  
Executive Authority  
Design (information/instruction)

<i>Specimens</i>	<i>Data</i>
Stability Commutability Shipment	Submission Calculations Preparing Reports Multiplication Sending Reports Archives

Approval Labs  
Education/User Meetings

## *Internet Only*

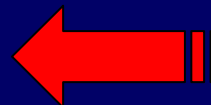
Education is done via Website  
User Meetings skipped

## *Internet is not used*

Human beings want human  
Contact

## *Combination*

- Information on the website
- User meetings



# Internet: Shipment Specimens

Purpose  
Executive Authority  
Design (information/instruction)

<i>Specimens</i>	Submission Calculations Preparing Reports Multiplication Sending Reports Archives
Stability Commutability Shipment	

Approval Labs  
Education/User Meetings



*In General*  
Not, of course

*Special Cases*  
Digital Patterns via Website  
Instead of e.g. Smears



Assume you want to drive in a €100.000 car on the day you get married. What will you do: buy that car  
Or rent it for that special day?



*An introduction to thoughts on requirements  
For operating PT on line*

# Requirements PT on line

## *Hardware*

Infrastructure with Database Server and a Webserver  
Internet Connection “Close to the Backbone” and High-Capacity  
Firewall, Security, Hosting Centre

## *Software*

Databaseplatform; Oracle/SQL  
HTML.ASP.net; JAVA/JAVAScript; language XML

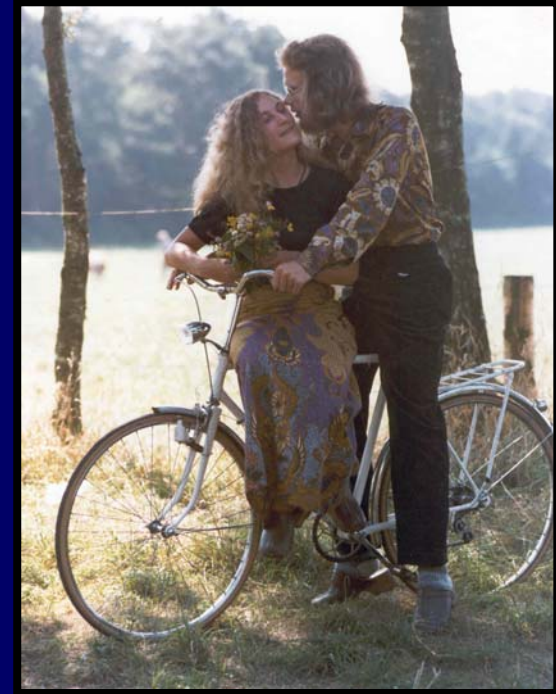
## *Staff*

Maintenance of Hardware and Software

*Buy, rent or lease, that is the Question*

# *Choices I made: 3 Websites*

*Marriage by bike  
Are they Car- or Carriage-drivers?*



[www.ERNDIMQA.nl](http://www.ERNDIMQA.nl)

[www.euroreflab.com](http://www.euroreflab.com)

[www.occupational-environmental-laboratory.com](http://www.occupational-environmental-laboratory.com)

# [www.ERNDIMQA.nl](http://www.ERNDIMQA.nl)

ERNDIM is the European Research Network for the Diagnosis Of Inborn Errors of Metabolism.

As there is only a number of specialised labs per country National initiatives were missing and the approach was International from the start. Sponsored by EU in the Beginning; now self-supporting

Labs involved: some 240 from 31 countries all over the world

International Board (chair Prof. Brian Fowler, Basle, CHU)  
SKML chosen as executive organisation for PT because  
Website Technology was in place

# www.ERNDIMQA.nl: Choices (2000)

Purpose  
Executive Authority  
Design (information/instruction)

Defined by ERNDIM  
ERNDIM  
6 multi parameterschemes  
With delay 14 days

## *Technical*

Hardware:  
Leased  
Software:  
Outsourced  
Staff:  
Operating

## *Data*

Submission  
Calculations  
Preparing Reports  
Multiplication  
Sending Reports  
Archives

Website  
Website  
Website  
Not applicable  
Not applicable  
Central on website

Approval Labs  
Education/User Meetings

Performance List  
Comment Scientific Advisor

[www.Euroreflab.com](http://www.Euroreflab.com)

[www.Labquality.com](http://www.Labquality.com)

[www.Skml-mca.nl](http://www.Skml-mca.nl)

[www.Iph.fgov.be](http://www.Iph.fgov.be)

Scheme for a single Analyte, HbA1c (Diabetes). National PT Organisers in place: thus a federative approach by national Organisers in Belgium, Finland, The Netherlands and an International Group

All share the same specimens and database

But all have national subscription, national user-meetings, Start from national websites with hyperlink, multilingual (English, Dutch, French, Finnish)

# www.HbA1c: Choices

Purpose  
Executive Authority  
Design (information/instruction)

Defined in Collaboration  
4 National Organisation  
Real time reports

## *Technical*

Hardware:  
Leased  
Software:  
Leased  
Staff:  
Operating

## *Data*

Submission  
Calculations  
Preparing Reports  
Multiplication  
Sending Reports  
Archives

Website  
Website  
Website  
Not applicable  
Not applicable  
Central on website

Approval Labs  
Education/User Meetings

Website  
Combination Website/Meetings

[www.occupational-environmental-laboratory.com](http://www.occupational-environmental-laboratory.com)

*Website under construction*

Network of 10 national PT organisers in the field of Occupational and environmental laboratory medicine (chair Andrew Taylor)

Exploration of a website as vehicle for international collaboration

- Information on the respective organisations
- Inventory of the schemes operated by the respective organisations
- Trial multilingual PT scheme Cu-Zn-Se in relation to harmonisation efforts in the respective countries and efforts to implement uncertainty in statistics



# Summary

1. Going on-line is not just using another tool to handle data but a different way of living with impact on all aspects of PT organisation
2. Real-time reports, paper is out (submission and reports), central archive, collaboration, multilingual websites
3. If you decide to go on-line with your PT-schemes it is best to include all steps from submission to central archive
4. Technical requirements are high and thus costing  
Make your choice: buy, rent, lease, outsource or.....  
.....share costs with other PT organisers
5. Sometimes it works!

**..... Thank you for driving this  
car(riage)with me.....**

