

Introduction to

Laboratory Information Management System

LIMS

LIMS is a software which helps you with:

- **Getting access to the lab resources (tools licences, tools booking)**
- **Running the tools (instructions, recipes, SPC)**
- **Archiving the experimental results (logs, batch register)**

- **LIMS is also used for administration of laboratory (managing of users, tools, licenses, runs, economy, processes ...).**

Calendar

Send my bookings

Related

- Tools >
- User >
- Advanced >
- Info >

Favourites [edit]

- Log history by tool
- Log status
- My licenced tools
- User list

You are logged in as: --wlodek --

Logout

Important information about the lab

Electrum Laboratory LIMS

Please read this short manual found here in pdf format for more information regarding the Electrum laboratory.

Current equipment status

See information for respective tool in warning mode.

Night Shift Booking i.e. lab buddy / working outside normal work hours

THE VENTILATION IS REDUCED DURING THE WEEKENDS AND IT IS STRICTLY FORBIDDEN TO ENTER THE CLEANROOM WHEN THE RED LIGHT ABOVE THE ENTRANCE IS ON. By default the cleanroom is closed on weekends.

- If you are planning to work off hours (nights and weekends) you must contact the Electrum laboratory staff for approval in advance. Schedule the time span for the intended working hours and pick a "lab buddy".
- For safety reasons the lab buddy system must be applied during off hours. The lab buddy system requires that the person is asked if he/she is willing to take this responsibility. Just picking a person from the list is not ok. The lab buddy's must be present in the lab in order to assist each other in the event of an accident.

Users who do not comply with the above rules can lose their cleanroom access.

Other informations

Tool usage restrictions

1. Tools from the list below can be operated only during Monday - Friday, 07:00 - 17:00.

- SiGe-furnace
- Si-Epi (Epsilon)
- LPCVD (A1-A4)
- Mozart
- Semlan
- Napoleon
- G:a Aixtron
- Asterix
- HVPE
- Gandalf
- Replisaurus RTA/RTP
- IBS

2. Operation of these tools any other time is

BOOKED TOOLS

My bookings (Hide bookings...)

| Booking without log | Logs: Show not completed |
|---|--------------------------|
| Log Edit 16 dec 08:00 - 20:00 Prometeus auto Log: not started | |
| Log Edit 17 dec 08:00 - 17:00 Prometeus auto Log: not started | |
| Log Edit 18 dec 08:00 - 20:00 Prometeus auto Log: not started | |

Logs without booking (Hide logs...)

| From yesterday and newer | Show not completed |
|--------------------------|--------------------|
| | |

Project leader bookings (Show bookings...)

My licenced tools

| | | |
|-----------|-----|---------------------------|
| Book View | ⌚ | A1-NITRIDE (471) |
| Book View | ⌚ | A2-LTO-IDP (472) |
| Book View | ⌚ | A4-POLY (474) |
| Book View | ⌚ | Alice (513) |
| Book View | ⌚ | B5-Boron (475) |
| Book View | ⌚ | B6-FGA (476) |
| Book View | ⌚ | B7-Wet-Dry (477) |
| Book View | ⌚ | B8-Wet-Dry (478) |
| Book View | ⌚ | C2-Dry (482) |
| Book View | ⌚ | C3-Wet-Dry (483) |
| Book View | ⌚ | DSW-Stepper (582) |
| Book View | ⌚ | Elli (371) |
| Book View | ⌚ | Emil (563) |
| Book View | Log | FH Gul3 (5071) |
| Book View | Log | HMDS 2 (5073) |
| Book View | Log | M04 Leitz (5011) |
| Book View | Log | M05 Nikon/auto (5012) |
| Book View | Log | M07 Olympus/camera (5013) |
| Book View | ⌚ | Opticoat (583) |
| Book View | ⌚ | Optidev (584) |
| Book View | ⌚ | Prometeus auto (441) |
| Book View | ⌚ | Prometeus manual (440) |
| Book View | Log | R/D double (5072) |
| Book View | ⌚ | Replisaurus (440) |

User Home page

(the page after login)

• List of booked tools

• Favourites ("saved" LIMS pages)

• List of licenced tools

Booking in LIMS

You MUST book tools BEFORE they are used if they are marked as “Booking Compulsory”

on tool label

or

on tool view page

OK

| | | | |
|---|---|-----------------------------------|----------------|
| Tool: | | | |
| Emma | | | |
| Responsible department: Acreo | Responsible person: Magnus Lindberg | Phone number: 632 78 22 | |
| Full tool name: Mask aligner MA6/BA6 Karl Suss | | Tool ID: 524 | Room: Gul 3 |
| General purpose: Mask aligner, principally for backside alignment. | | | |
| Instructors: | Dept.: | Email: | Phone number: |
| Cecilia Aronsson | Replisaurus | cecilia@replisaurus.com | 070-287 71 01 |
| Helena Strömberg | Acreo | helena.stromberg@acreo.se | 632 77 26 |
| Olof Öberg | Acreo | olof.oberg@acreo.se | 632 78 19 |
| Magnus Lindberg | Acreo | magnus.lindberg@acreo.se | 632 78 22 |
| Restrictions/safety/environment: | | | |
| LIMS Info | Booking Compulsory | Logging Compulsory | |
| 2010-01-08/Per Wehlin Electrum Laboratory | | | |

Calendar

Send my bookings

Related

- My licenced tools
- All tools
- Tool status
- View bookings >
- Batches >
- Log >
- Verify night shift booking

Favourites [edit]

- Log history by tool
- Log status
- My licenced tools
- User list

You are logged in as:
--wlodek --

Logout

DOLMOR L.A.A.J.

Status and tool description

Current status: AVAILABLE [Change] - Book - Log

Technical description
 Full equipment name: Provac PAK 600 Coating System
 General purpose: Metal evaporation
Technical data:

- Several standard processes for deposition of AuGe, Au, Ni, Ir, Pd, Pt, Ti, Cr, Ge
- Evaporation of other metals and dielectrics is possible.
- Wafer holder for multi-substrates up to 6" size.
- Possibility to deposit up to 6 different metals during one run

Additional information

| | | | | | | | | | | | | | | | | | | | | |
|--|-------------------------------|-------------------------------|--------------------------|-------------------------|----------------------|--------|-------------|------------------------|--------------------|----------------------|--|--------------------|-----------------------|-----------------|------------------------------|------------------------|------------------------------|-------------------|--------------------------|-------------------|
| <table style="width: 100%; border-collapse: collapse;"> <tr><td>Tool Name:</td><td>Barbara</td></tr> <tr><td>Tool Id:</td><td>511</td></tr> <tr><td>Manufacturer:</td><td>Provac</td></tr> <tr><td>Model:</td><td>PAK 600 Coating System</td></tr> <tr><td>Category:</td><td>Thin film deposition</td></tr> </table> | Tool Name: | Barbara | Tool Id: | 511 | Manufacturer: | Provac | Model: | PAK 600 Coating System | Category: | Thin film deposition | <table style="width: 100%; border-collapse: collapse;"> <tr><td>Area / room:</td><td>Metal-III/V</td></tr> <tr><td>Footprint [m2]:</td><td></td></tr> <tr><td>Installation Date:</td><td></td></tr> <tr><td>Process Lines:</td><td></td></tr> </table> | Area / room: | Metal-III/V | Footprint [m2]: | | Installation Date: | | Process Lines: | | |
| Tool Name: | Barbara | | | | | | | | | | | | | | | | | | | |
| Tool Id: | 511 | | | | | | | | | | | | | | | | | | | |
| Manufacturer: | Provac | | | | | | | | | | | | | | | | | | | |
| Model: | PAK 600 Coating System | | | | | | | | | | | | | | | | | | | |
| Category: | Thin film deposition | | | | | | | | | | | | | | | | | | | |
| Area / room: | Metal-III/V | | | | | | | | | | | | | | | | | | | |
| Footprint [m2]: | | | | | | | | | | | | | | | | | | | | |
| Installation Date: | | | | | | | | | | | | | | | | | | | | |
| Process Lines: | | | | | | | | | | | | | | | | | | | | |
| <table style="width: 100%; border-collapse: collapse;"> <tr><td>Tool responsible:</td><td>Reza Nikpars [contact]</td></tr> <tr><td>Second tool responsible:</td><td>Acreo Service [contact]</td></tr> <tr><td>Process responsible:</td><td></td></tr> <tr><td>Tool Owner:</td><td>KTH</td></tr> <tr><td>Responsible group:</td><td>Nano_Q1.A</td></tr> </table> | Tool responsible: | Reza Nikpars [contact] | Second tool responsible: | Acreo Service [contact] | Process responsible: | | Tool Owner: | KTH | Responsible group: | Nano_Q1.A | <table style="width: 100%; border-collapse: collapse;"> <tr><td>Instructors: [...]</td></tr> <tr><td>Licensed users: [...]</td></tr> <tr><td>Current files:</td></tr> <tr><td>Control Specification</td></tr> <tr><td>SPC_Barbara.xls [info]</td></tr> <tr><td>Technical Description</td></tr> <tr><td>511_t0.pdf [info]</td></tr> <tr><td>User Instructions</td></tr> <tr><td>511_o1.pdf [info]</td></tr> </table> | Instructors: [...] | Licensed users: [...] | Current files: | Control Specification | SPC_Barbara.xls [info] | Technical Description | 511_t0.pdf [info] | User Instructions | 511_o1.pdf [info] |
| Tool responsible: | Reza Nikpars [contact] | | | | | | | | | | | | | | | | | | | |
| Second tool responsible: | Acreo Service [contact] | | | | | | | | | | | | | | | | | | | |
| Process responsible: | | | | | | | | | | | | | | | | | | | | |
| Tool Owner: | KTH | | | | | | | | | | | | | | | | | | | |
| Responsible group: | Nano_Q1.A | | | | | | | | | | | | | | | | | | | |
| Instructors: [...] | | | | | | | | | | | | | | | | | | | | |
| Licensed users: [...] | | | | | | | | | | | | | | | | | | | | |
| Current files: | | | | | | | | | | | | | | | | | | | | |
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| 511_t0.pdf [info] | | | | | | | | | | | | | | | | | | | | |
| User Instructions | | | | | | | | | | | | | | | | | | | | |
| 511_o1.pdf [info] | | | | | | | | | | | | | | | | | | | | |

To get higher priority for access to the tools marked as “Booking Optional” make a booking.

2010

Not used booking

To leave not used bookings is a bad policy because all “forgotten” bookings will be charged as the tool usage at the end of the month.

- **Remove booking immediately when you know that you can not use the tool. Attention! Only future booking can be removed by user.**
- **Shorten your booking as much as possible if the start time is already passed.**
- **Contact the tool responsible to explain situation an ask for help with your past booking.**

What is a log in LIMS

The log is an information regarding the history of respective tool usage.

This information is very important for the next user because the condition of the tool often depends on the previously run process.

Logs give also hints for users regarding parameters of standard and/or often used processes.

The tool usage history is a base for planning and doing service and preventive maintenance, i.e. no logs = no service!

Logs are also used for charging the projects for laboratory usage.

From these reasons it is extremely important to create a log **DIRECTLY** after you finished working with the tool.

Logging in LIMS

To create the log just click on **Log** link present on the **Booked tools** list ... fill in form which opens and accept it by clicking button "Save as Completed".

Calendar
Send my bookings

Related
Tools
User
Advanced
Info

Favourites [edit]
Log history by tool
Log status
My licenced tools
User list

You are logged in as:
--wlodek --

Logout

Important information about the lab
Electrum Laboratory LIMS

Please read this short manual found here in pdf format for more information regarding the Electrum laboratory.

Current equipment status
See information for respective tool in warning mode.

Night Shift Booking i.e. lab buddy
outside normal work hours

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Users who do not comply with the above rules can

My bookings (Hide bookings...)

| Booking without log | Logs: | Show not completed |
|--|----------------------------------|--------------------|
| Log Edit 16 dec 08:00 - 20:00 Prometeus auto | Log: not started | |
| Log Edit 17 dec 08:00 - 17:00 Prometeus auto | Log: not started | |
| Log Edit 18 dec 08:00 - 20:00 Prometeus auto | Log: not started | |

Click!

Project leader bookings (Show bookings...)

| Book | View | Log | Tool |
|----------------------|----------------------|---------------------|------------------|
| Book | View | Log | A1-NITRIDE (471) |
| Book | View | Log | A2-LTO-IDP (472) |
| Book | View | Log | A4-POLY (474) |

My licenced tools

Barbara (511)

Send my bookings

Related
Log status
Log history by tool
Log history by batch

Favorites [edit]
All bookings
All tools
Booked time list
Laboratory / Group list
Licences by tool
Log history by tool
Log status
Logged time list
Project list
Tool list
User list

You are logged in as:
--wlokap --

Logout

Booked time: 24 mar 11:00 - 13:00
Project: 3C SIC MOSFET del 3
Batch No: [input] [Verify](#)
Log start time: 2011-03-24 11:00
Log end time: 2011-03-24 13:00
 Problems during run
(If checked, supplying supplementary info about what went wrong is required. Also, any required log fields are changed to optional)
Recipe: [input]
Metal: [input]
Thickness: [input]
Base pressure: [input]
Au run (yes/no?): [input]
Supplementary Information: [input]

- Change status or message for this tool (current status: Available)

[Save as 'Started'](#) [Save as 'Completed'](#)

Hint: Logged booking "disappears" from your **Booked tool** list (if "Logs=Show not completed"), so try to keep your list as short as possible.

Logging in LIMS

Another place useful for creating the logs is the **Log status** page ...
but the procedure is roughly the same: fill in form which opens and save as before.

Home » Tools » Log » [Log status](#)

Log status

-- Select tool here to start new log or create new booking -> Sort: id [v] [New log] [New booking]

Optional filters for this list (Hide filters...)

Show logs: Show all [v] Log status: Show not completed [v]
 Logs for project leader bookings: Hide [v] Optional logs: Show [v]
 Timespan: 2009-12-01 [calendar] to: [calendar]

View logs

| Log / Booking Start | Log / Booking Stop | Booked / logged by | Log Status | Completed date | Tool Id | Tool Name | All log fields | Project name | Project Id |
|---------------------|--------------------|--------------------|-------------|----------------|---------|----------------|----------------|----------------|------------|
| Log 16 dec 08:00 | 16 dec 20:00 | Wlodek Kaplan | Not Started | | 441 | Prometeus auto | | DXR-03 run 6-9 | 2150881 |
| Log 17 dec 08:00 | 17 dec 17:00 | Wlodek Kaplan | Not Started | | 441 | Prometeus auto | | DXR-03 run 6-9 | 2150881 |
| Log 18 dec 08:00 | 18 dec 20:00 | Wlodek Kaplan | Not Started | | 441 | Prometeus auto | | DXR-03 run 6-9 | 2150881 |

Records Per Page: 10

Click!

Hint: To see all not logged bookings during given month adjust Timespan and click on the button “View logs”.

Virtual tool 450_Lab support

When somebody helps you in the lab (e.g. with training for the tool licence) you will be asked to create a log for this service in tool 450_Lab support.

To do so, go to the [Log status](#) page, select 450_Lab support and click “New log” button ...

... which opens [Log without booking](#) page.

Select project, modify Log start/end time to cover the period agreed with the instructor, instructor name and group, and describe type of help (e.g. licence for tool ...)

Click on “Save as Completed” to register the log.

The top screenshot shows the 'Log status' page. The breadcrumb trail is 'Home > Tools > Log > Log status'. A red circle highlights the dropdown menu for selecting a tool, which contains the text '-- Select tool here to start new log or create new booking --'. Other elements include a 'Sort: id' dropdown, 'New log' and 'New booking' buttons, and various filter options like 'Show logs', 'Log status', and 'Optional logs'.

The bottom screenshot shows the 'Log without booking' page. The breadcrumb trail is 'Home > Tools > Log > Log without booking'. A red circle highlights the 'Lab support (450)' section, which includes a dropdown for selecting a project, a 'Verify' button, and fields for 'Batch No.', 'Log start time', and 'Log end time'. Below these are fields for 'Helper name', 'Helper group', 'Support type', and 'Supplementary Information'. A red arrow points from the text 'Click on “Save as Completed” to register the log.' to the 'Save as Completed' button at the bottom of the page.

Help when running the process

Information about the tool can be accessed by clicking **View** link in the Tool list.

Information on **View tool** page:

Technical description of the tool

People to contact if help is needed

Tool files: instruction, recipes, SPC

The screenshot shows the 'View tool' page for 'Barbara (511)'. The page is divided into several sections:

- Calendar:** Includes 'Send my bookings', 'Related' (My licenced tools, All tools, Tool status), 'View bookings', 'Batches', 'Log', and 'Verify night shift booking'.
- Favourites:** Includes 'Log history by tool', 'Log status', 'My licenced tools', and 'User list'.
- You are logged in as:** --wlodek --
- Logout**
- Status and tool description:** Shows 'Current status: AVAILABLE [Change]' and a link to 'Book - Log'. Below this is the 'Technical description' section, which includes the 'Full equipment name' (Provac PAK 600 Coating System), 'General purpose' (Metal evaporation), and 'Technical data' (listing processes for Au, Ni, Ir, Pd, Pt, Ti, Cr, Ge, and wafer holder details).
- Additional information:** A table with fields like 'Tool Name', 'Tool Id', 'Manufacturer', 'Model', 'Category', 'Area / room', 'Footprint', 'Installation Date', and 'Process Lines'. It also lists 'Tool responsible' (Reza Nikpars) and 'Second tool responsible' (Acreo Service).
- Control Specification:** A link to 'SPC_Barbara.xls [info]'.
- Technical Description:** A link to '511_td.pdf [info]'.
- User Instructions:** A link to '511_oi.pdf [info]'.

More information in LIMS

Drop down menu Info provides access to information pages:

- List of rooms in the lab
- Database of chemicals
- Overview of documents

Direct link to Quality Manual

General information about the lab

The screenshot shows the LIMS web interface. A red circle highlights the 'Info' dropdown menu, which includes options like 'Area / room list', 'Chemical list', 'General documents', 'Tool documents', 'Sitemap', and 'Direct link to Quality Manual (QM) on portal'. Another red circle highlights the 'Quality Manual' link in the main content area. A third red circle highlights the 'Current equipment status' section, which contains detailed information about cleanroom ventilation and safety rules. A fourth red circle highlights the 'My licenced tools' table, which lists various tools and their status.

| Book | View | Log | Tool Name | ID |
|------|------|-----|--------------------|--------|
| Book | View | Log | A1-NITRIDE | (471) |
| Book | View | Log | A2-LTO-IDP | (472) |
| Book | View | Log | A4-POLY | (474) |
| Book | View | Log | Alice | (513) |
| Book | View | Log | B5-Boron | (475) |
| Book | View | Log | B6-FGA | (476) |
| Book | View | Log | B8-Wet-Dry | (478) |
| Book | View | Log | C2-Dry | (482) |
| Book | View | Log | C3-Wet-Dry | (483) |
| Book | View | Log | DSW-Stepper | (582) |
| Book | View | Log | Elli | (371) |
| Book | View | Log | Emil | (563) |
| Book | View | Log | FH Gul3 | (5071) |
| Book | View | Log | FH wet chemistry-1 | (5041) |
| Book | View | Log | FH wet chemistry-2 | (5042) |
| Book | View | Log | FH wet chemistry-3 | (5043) |
| Book | View | Log | FH wet chemistry-4 | (5044) |
| Book | View | Log | FH wet chemistry-5 | (5045) |
| Book | View | Log | FH wet chemistry-6 | (5046) |
| Book | View | Log | HMDS 2 | (5073) |
| Book | View | Log | Lab support | (450) |
| Book | View | Log | LIMS | (5001) |
| Book | View | Log | M04 Leitz | (5011) |
| Book | View | Log | M05 Nikon/auto | (5012) |
| Book | View | Log | M07 Olympus/camera | (5018) |
| Book | View | Log | Prmatische auto | (441) |

Do not hesitate to contact LIMS administrator in case of problems or when more help/information is needed.

Good luck when using LIMS