



PRECISION AND VACUUM TECHNOLOGY

About PREVAC



PREVAC was founded in 1996 in Rogów, Upper Silesia, Poland.

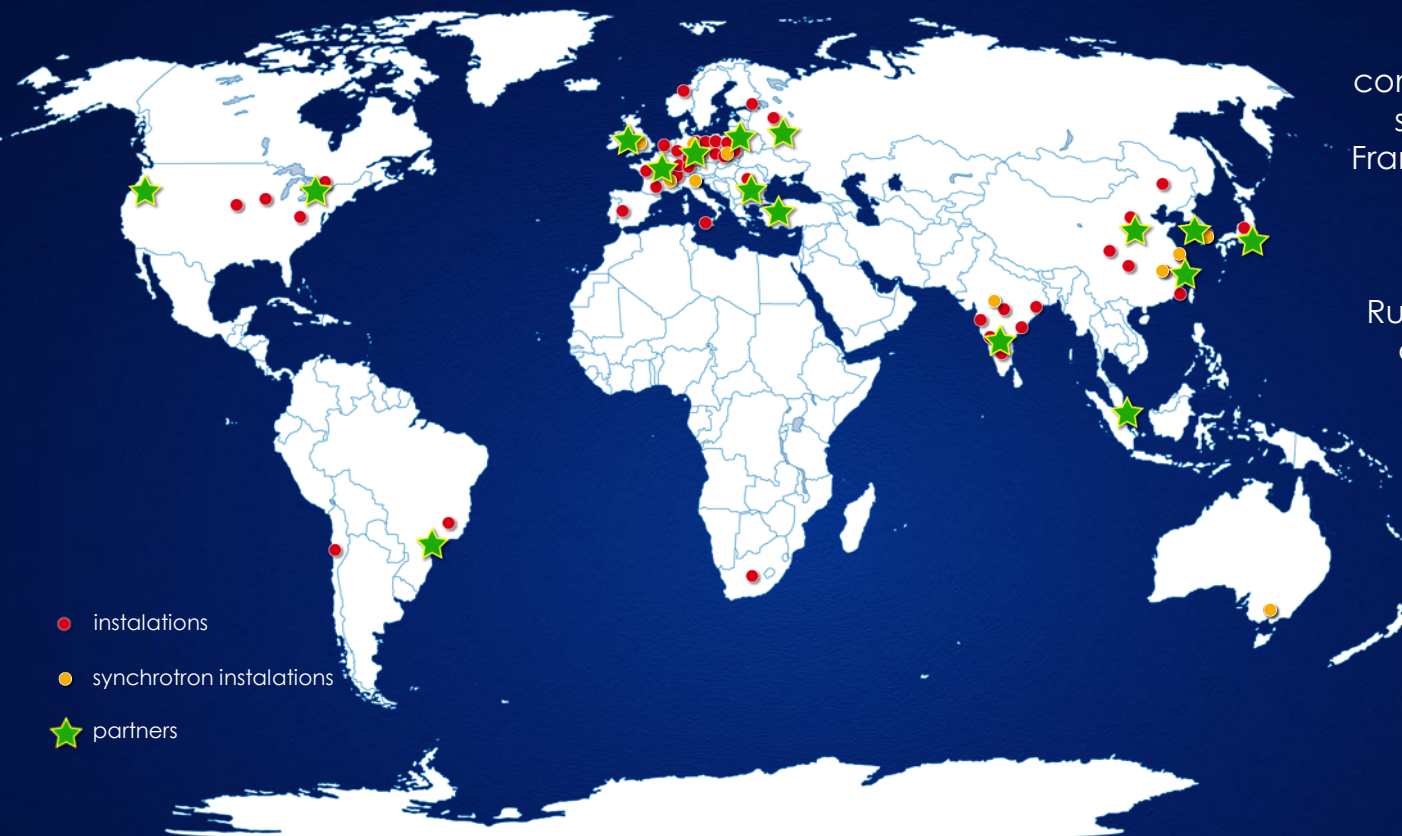
PREVAC can be distinguished by its highly skilled, young, dynamic and ambitious personnel consisting of the best specialists who along with the longtime experience in the field of vacuum technology constitute the greatest potential of the company.



Sales



Since its foundation PREVAC has been an international known leading manufacturer of scientific-research equipment used for studies under conditions of high and ultra-high vacuum.



- instalations
- synchrotron instalations
- ★ partners

Products made by the company operate presently in such countries as Germany, France, Great Britain, Sweden, Norway, Italy, Spain, the Czech Republic, the USA, Canada, Japan, China, Russia, Australia, the Republic of South Africa, Poland etc.

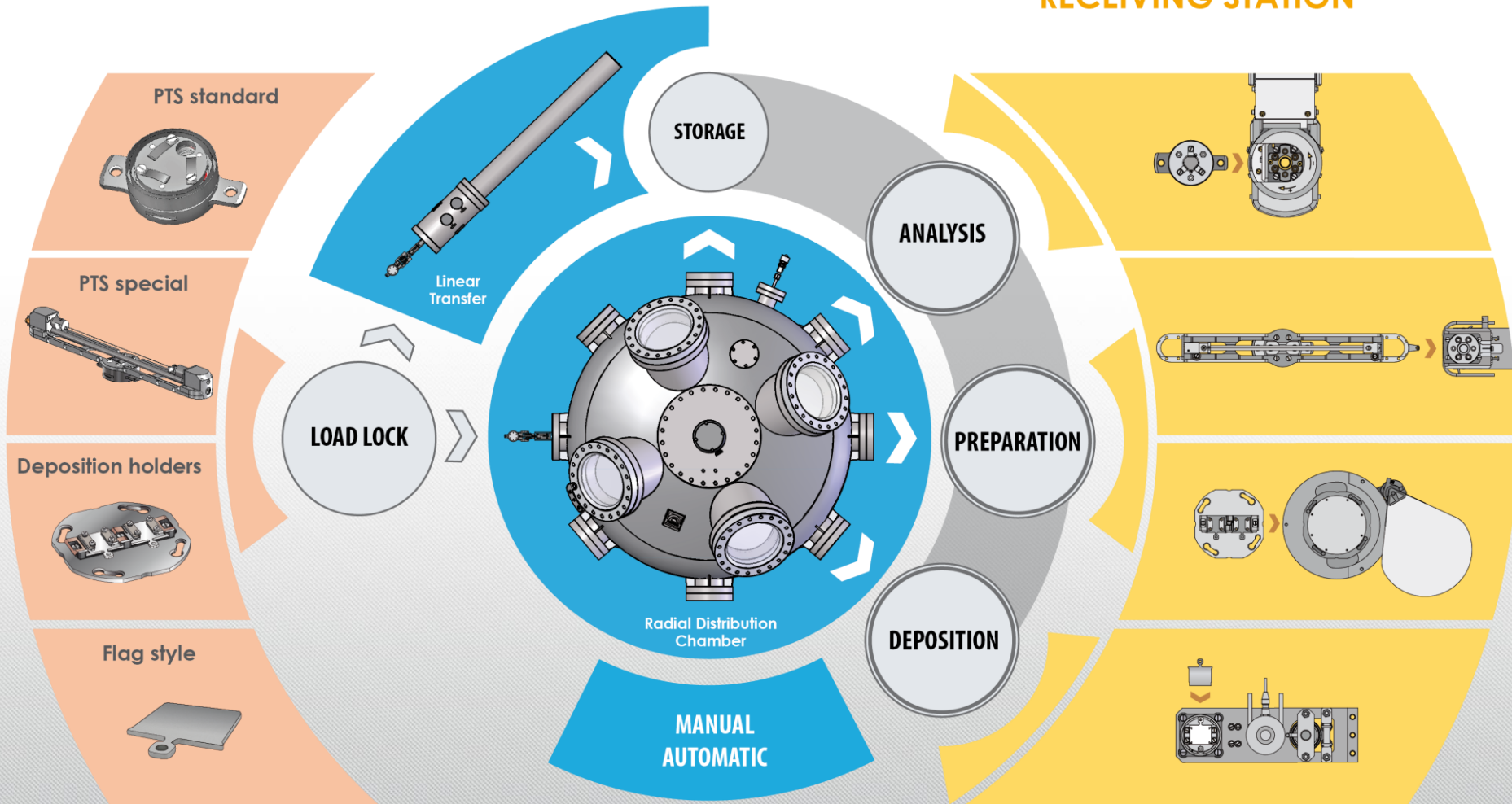


What do PREVAC provide ?

SAMPLE HOLDERS TYPE

TRANSFER MECHANISM

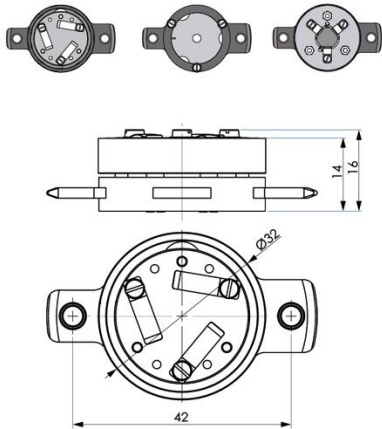
MANIPULATOR RECEIVING STATION



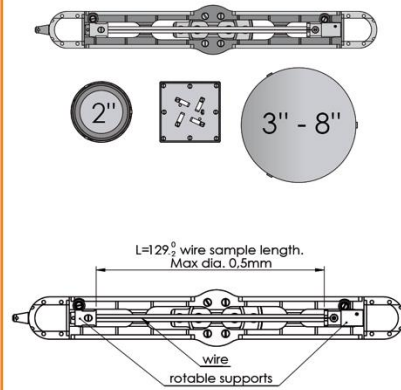
What do PREVAC provide ?

SAMPLE HOLDER [Example designs. Approximately 200 types of sample holders]

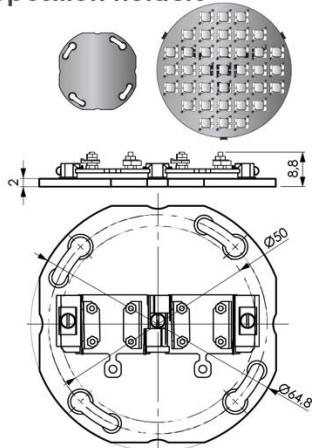
PTS standard



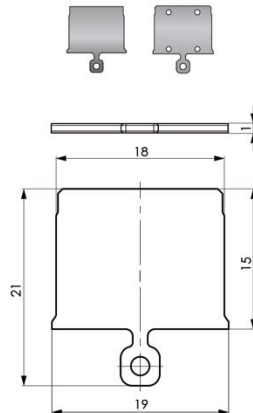
PTS special



Deposition holders

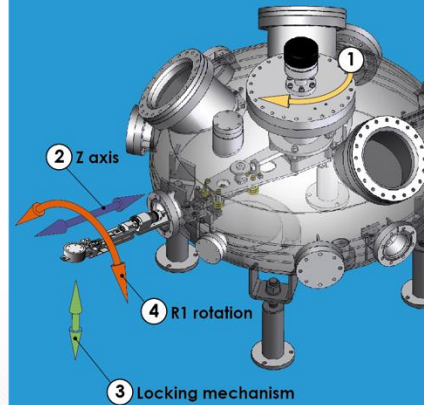


Flag style

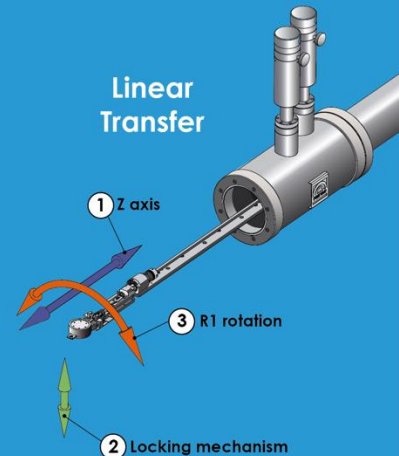


TRANSFERING

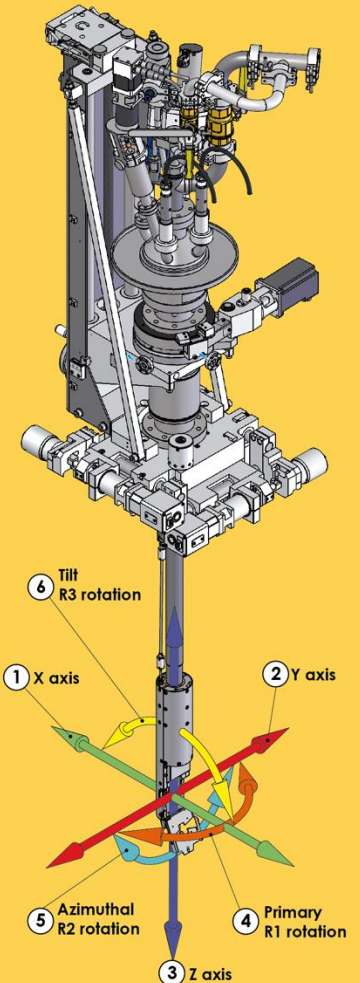
Radial Distribution Chamber



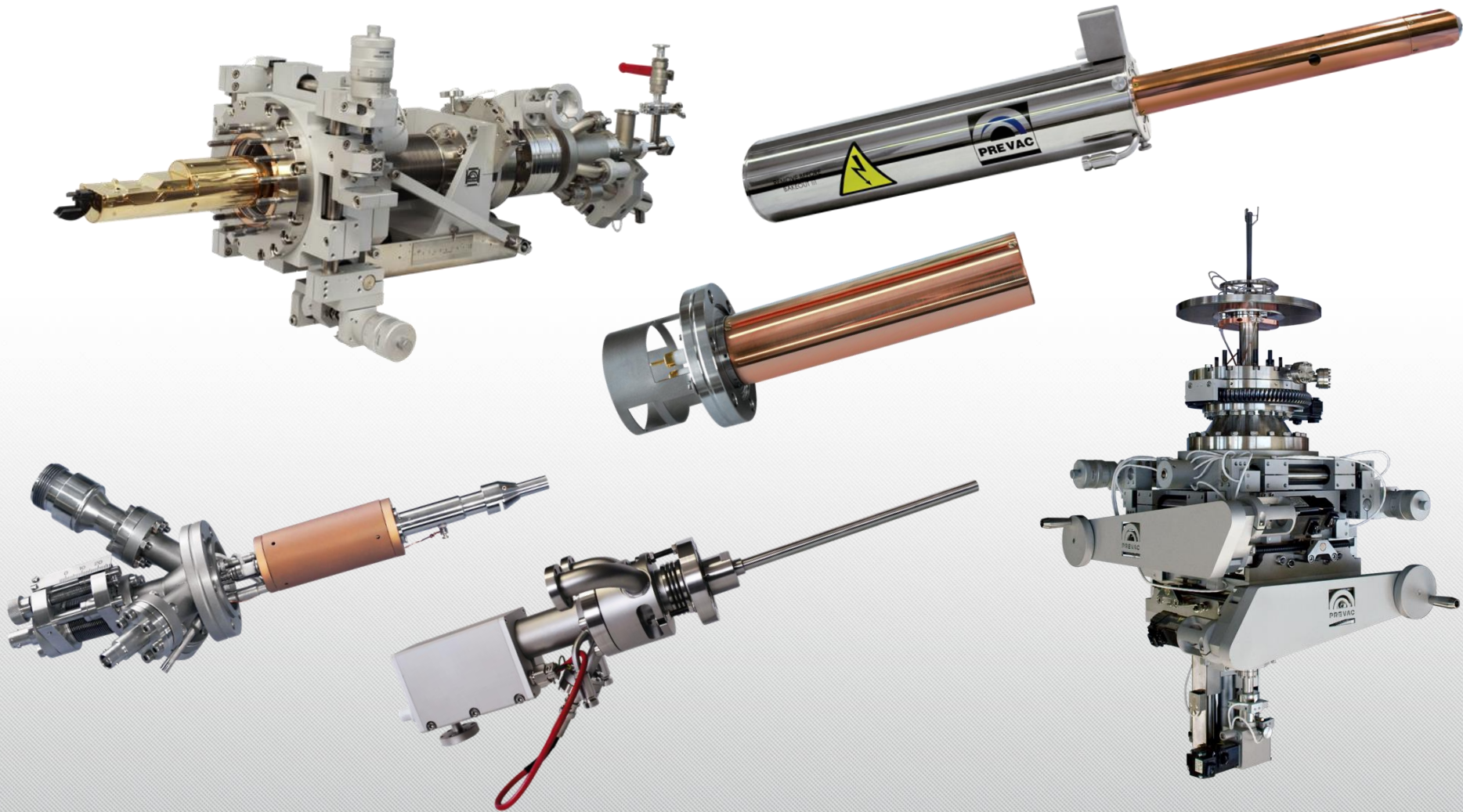
Linear Transfer



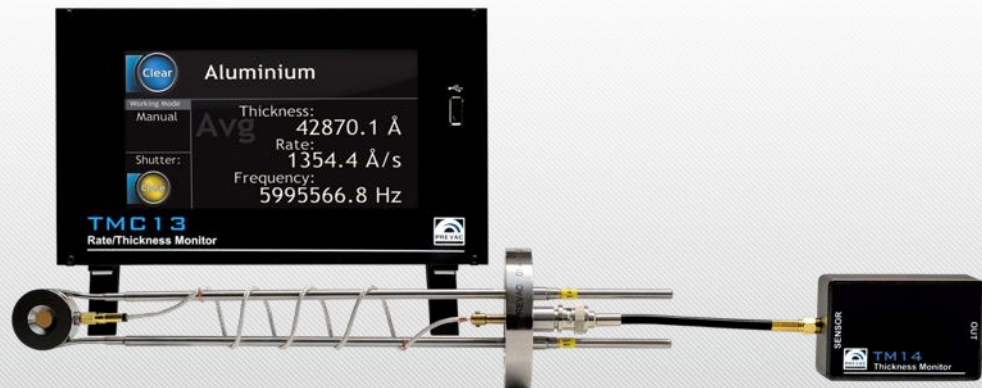
MANIPULATING



What do PREVAC provide ?



What do PREVAC provide ?



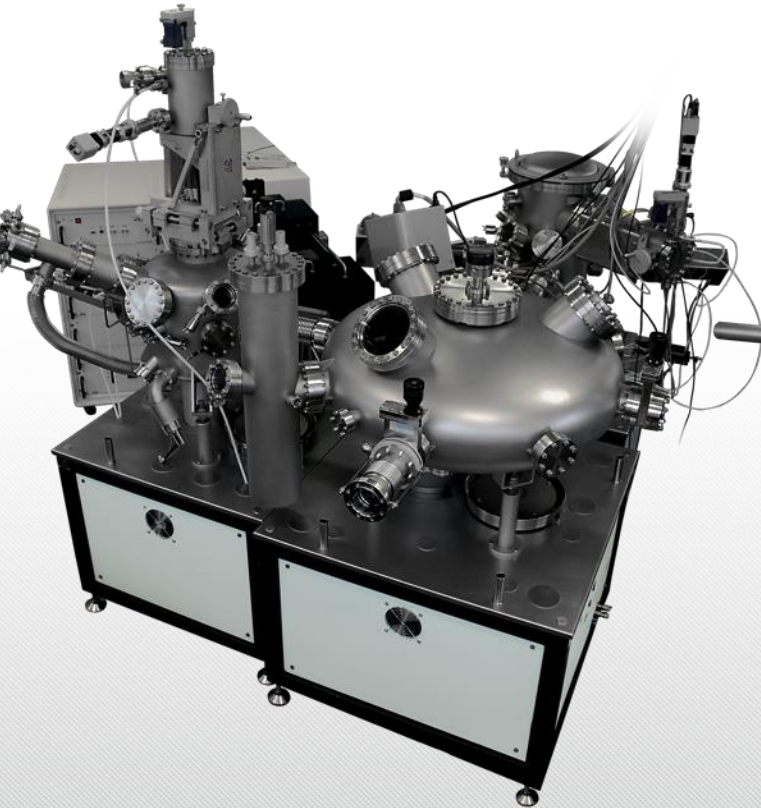
Analytics for Lab and Synchrotron



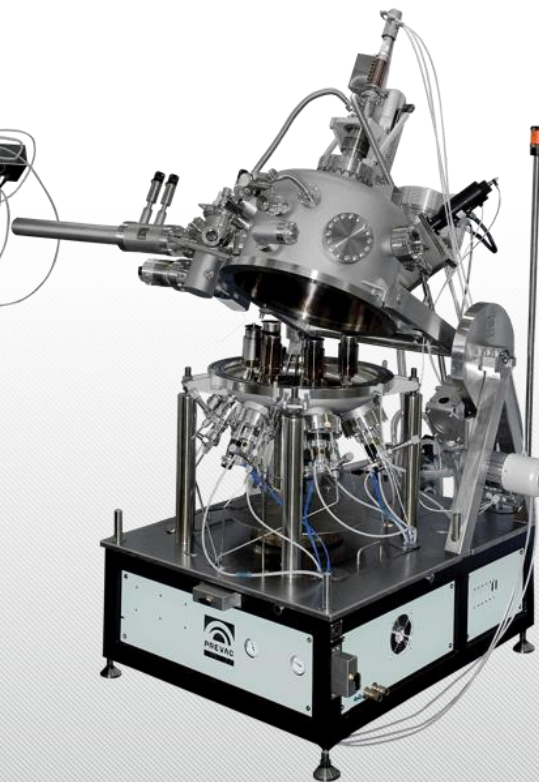
Deposition



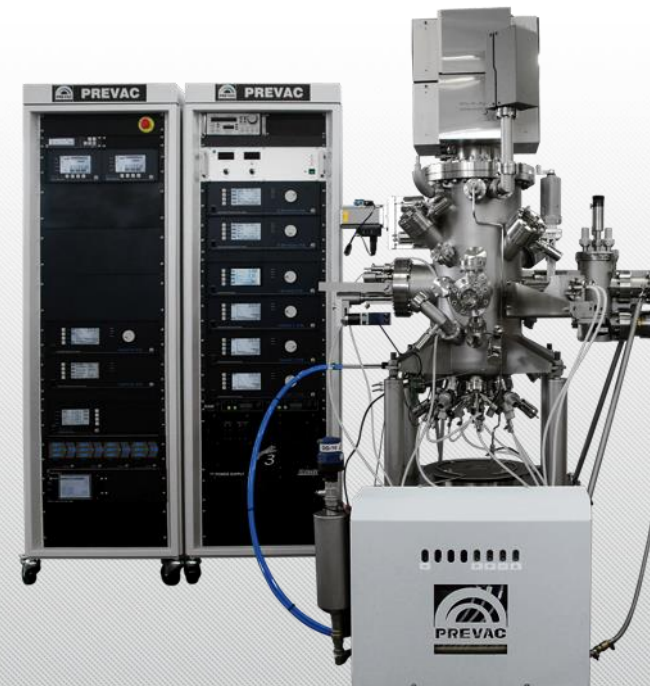
PLD systems



Magnetron Sputtering Systems



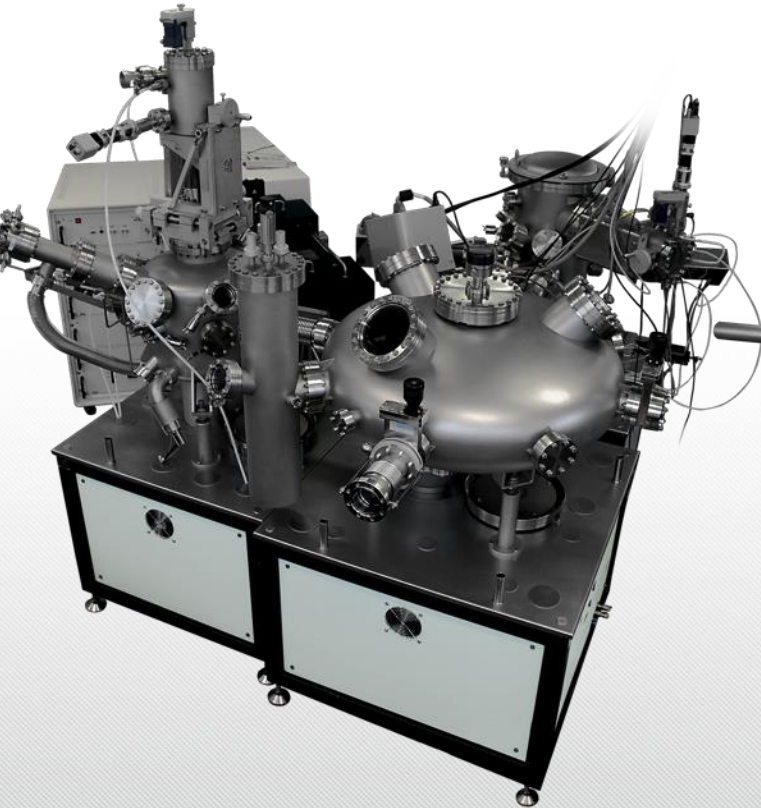
MBE Systems



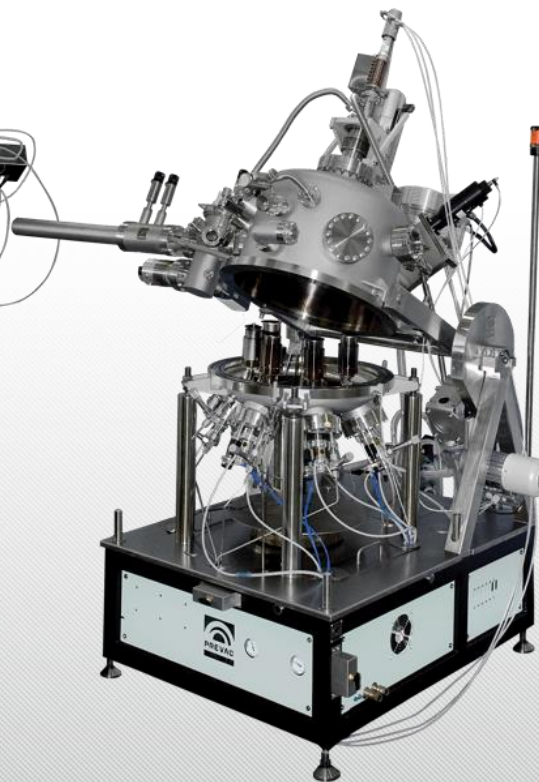
Deposition



PLD systems

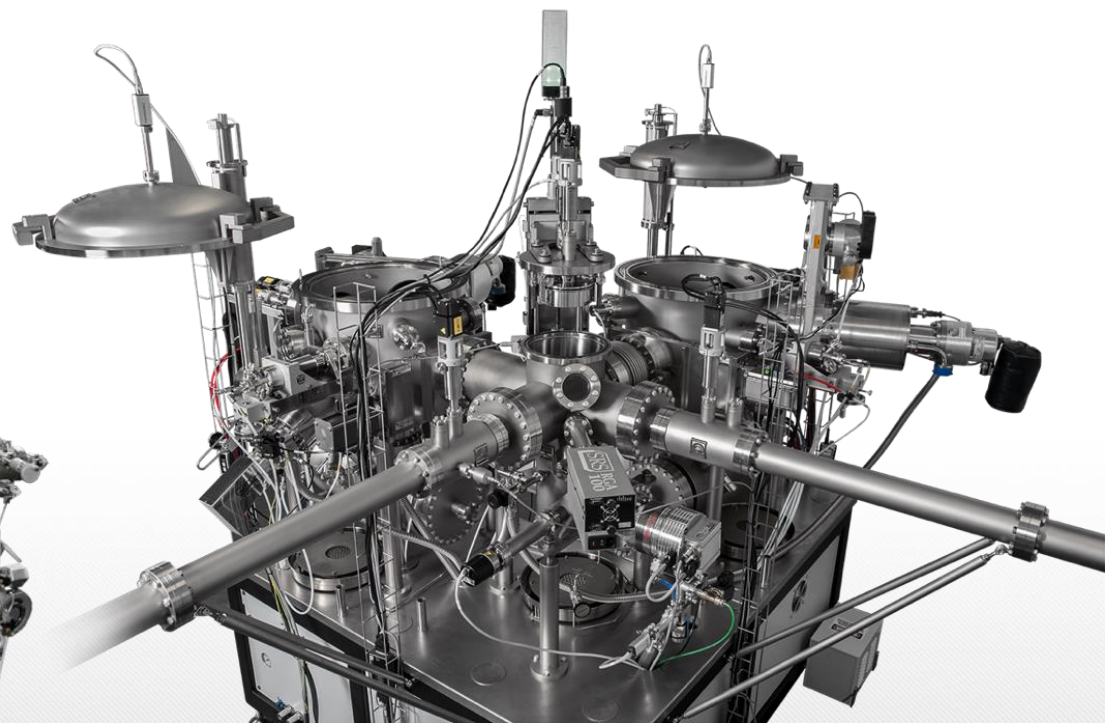


Magnetron Sputtering Systems



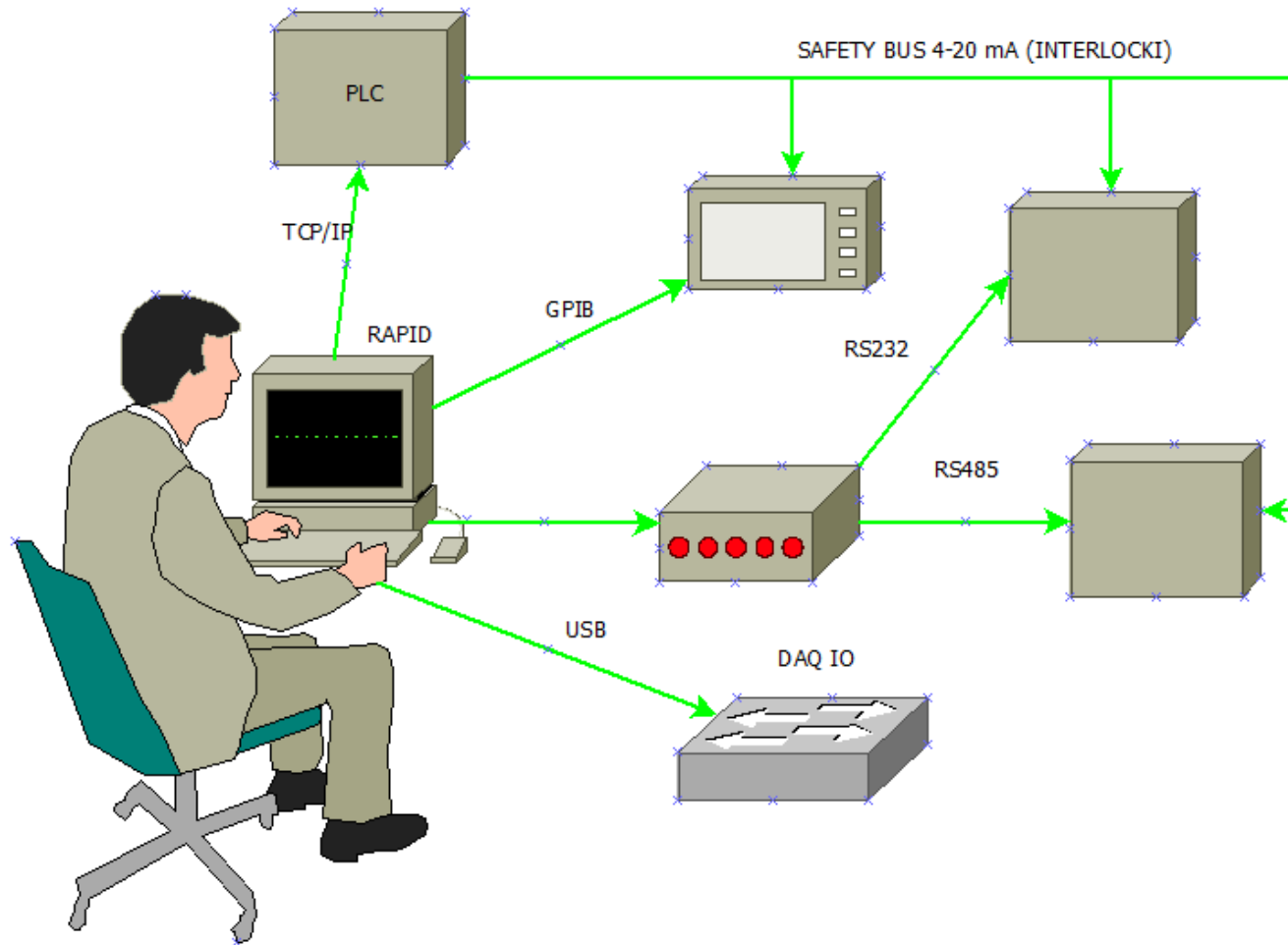
MBE Systems



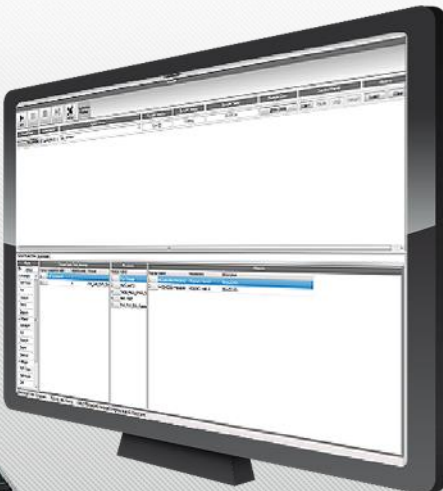
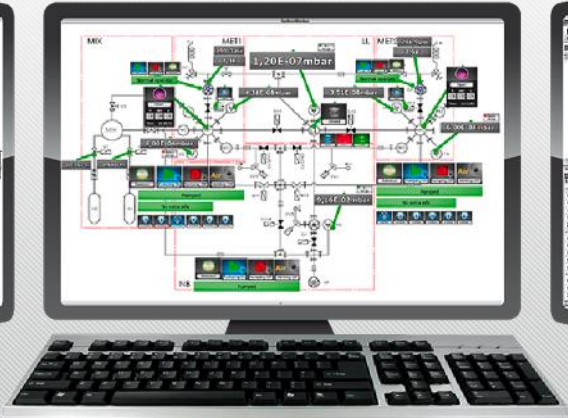
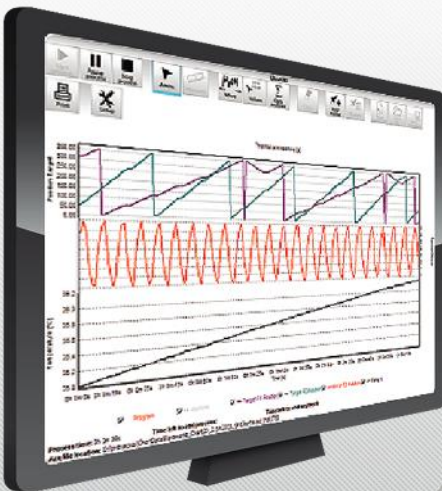
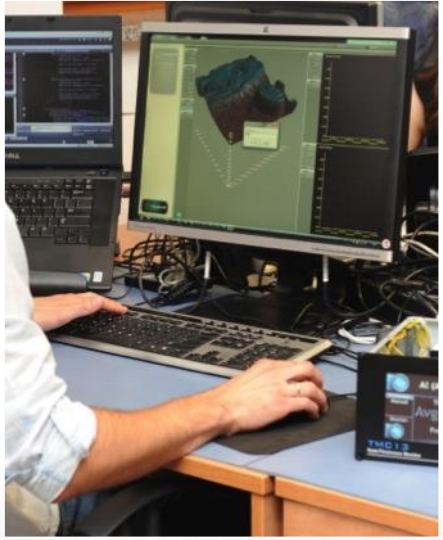


Full automatic, PLC controlled
multichamber deposition system

Infrastructure



RAPID Scientific Environment



- ZERO programming tasks for user
- Easy Configure & Use
- Acquire & Control
- Manual operating
- Create recipes and procedures
- Change at runtime
- Stable Release



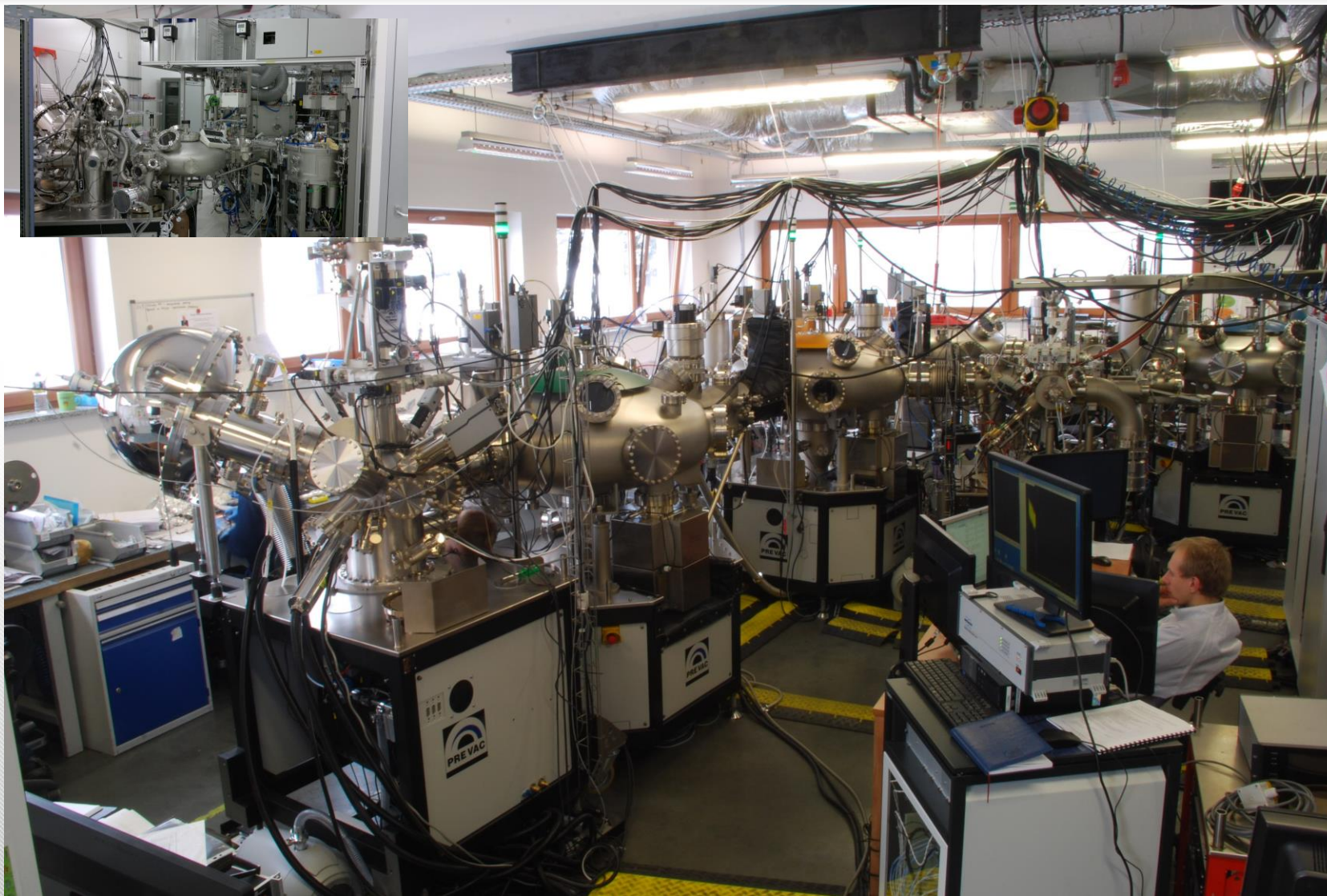
EMIL PROJECT



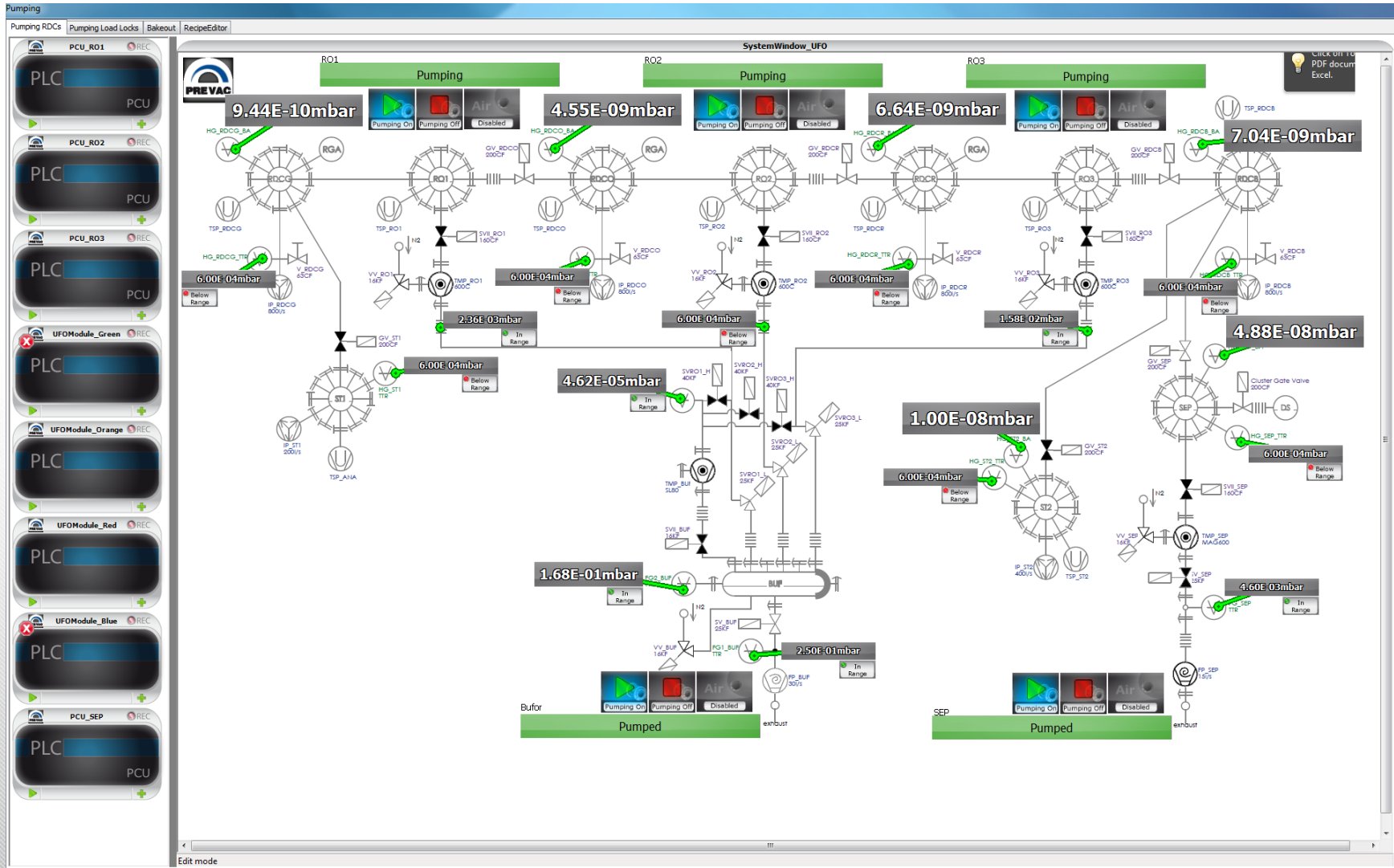
SISSY@EMIL
Helmholtz Zentrum



RapidSE vs Emil



RapidSE & Vacuum Control





RapidSE & Vacuum Control

ADMINISTRATOR MODE | Rapid SE 4.0 User: Emil Customer: *

File Modules Windows License Help

Main Drivers

LogView
Chamber: System View: global history Filter:

- 2015-02-21 13:39:47 TopologySystem : Connected with Adapter DB
- 2015-02-21 13:39:46 ANA : Unknown (10): Cold Finger warning - automatic turn off compressed air - vacuum lost
- 2015-02-21 13:39:46 TopologySystem: No communication
- 2015-02-21 13:39:46 PREP : Unknown (11): Cold Finger warning - automatic turn off compressed air - transfer procedure activated
- 2015-02-21 13:24:12 MasterRecipe : Recipe Transfer 2015-02-21 13:20:50 has been done
- 2015-02-21 13:24:12 MasterRecipe : Procedure Transfer of recipe has been done
- 2015-02-21 13:24:12 TransferModule : Transfer about ID 1667 has been finished
- 2015-02-21 13:24:12 RDC_Orange: Transfer procedure finished (ID:3, FROM: 2, TO: 3)
- 2015-02-21 13:23:32 TopologyAdapter : ==> ChangeHolderPosition ==> Last registered and given 'holder position' are equal
- 2015-02-21 13:23:32 RDC_Orange: Transfer procedure in progress (ID:3, FROM: 2, TO: 3)
- 2015-02-21 13:23:32 RDC_Orange: Transfer function order send correctly (ID:3, FROM:2, TO:3)
- 2015-02-21 13:23:32 RDC_Orange: PrepareForTransfer procedure finished (ID:3, FROM: 2, TO: 3)
- 2015-02-21 13:23:32 RDC_Orange: PrepareForTransfer procedure in progress (ID:3, FROM: 2, TO: 3)
- 2015-02-21 13:23:32 RDC_Orange: PrepareForTransfer function order send correctly (ID:3, FROM:2, TO:3)
- 2015-02-21 13:23:32 RDC_Orange: SetTransferPosition function order send correctly (ID:13, Position: 4)
- 2015-02-21 13:23:32 MasterRecipe : Holder of Procedure Transfer of recipe is transferring between chamber
- 2015-02-21 13:23:32 RDC_Orange: SetTransferPosition function order send correctly (ID:12, Position: 1)
- 2015-02-21 13:23:32 MasterRecipe : Recipe Transfer 2015-02-21 13:20:39 has been interrupted due to error. One of procedures has error or transf
- 2015-02-21 13:23:32 MasterRecipe : Procedure Transfer of recipe Transfer 2015-02-21 13:20:39 has been interrupted due to error. One of procedu
- 2015-02-21 13:23:11 TransferModule : Found correct path to transfer holder 11x11x1 (1000) 10003 from chamber LL1 to chamber LL2
- 2015-02-21 13:23:11 RDC_Orange: Transfer procedure finished with error (ID:3, FROM: 2, TO: 3)
- 2015-02-21 13:23:11 TransferModule : Transfer about ID 1665 ended with error. UFO about ID 3 reports error: ErrorChamberOUT ErrorChamberUF
- 2015-02-21 13:23:11 RDCO : RDCO (3): Transfer error active
- 2015-02-21 13:23:11 RDC_Orange: TransferErrorStatus - signal SampleInside active in target chamber (RDCO (3))
- 2015-02-21 13:23:11 RDC_Orange: Transfer function order send correctly (ID:3, FROM:2, TO:3)
- 2015-02-21 13:23:11 RDC_Orange: PrepareForTransfer procedure finished (ID:3, FROM: 2, TO: 3)
- 2015-02-21 13:23:11 RDC_Orange: PrepareForTransfer procedure in progress (ID:3, FROM: 2, TO: 3)
- 2015-02-21 13:23:11 RDC_Orange: PrepareForTransfer function order send correctly (ID:3, FROM:2, TO:3)
- 2015-02-21 13:23:11 RDC_Orange: SetTransferPosition function order send correctly (ID:13, Position: 3)
- 2015-02-21 13:23:11 MasterRecipe : Recipe Transfer 2015-02-21 13:20:44 has been done

FileName: .\LogView.log

RapidSE & Recipe Editor



ADMINISTRATOR MODE | Rapid SE 4.0 User: test Customer: *

File Modules Windows License Help

main Recipe Editor

RecipeEditor

Start Pause Stop Logger Compile Setup Recipe Progress Recipe Status

COUNTERS: DELAY [sec]:

Recipe Name: *				Processes		Objects			
Position	Component Name	Repeat Number	Process	Position	Name	Position	Name	Parameters	Description
1	Start Process	1		1	Heating	1	BCU14	Program: Bakeout	Object Info
1.1		1	Heating	2	Waiting	2	TransferModule	Program: Transfer Program	Object Info
2	Loop	10				3	Delay	Delay Time: 1800,00 sec.	Delay Info
2.1		1	Heating						
2.2		1	Waiting						
2.3		1	Heating						
3	End Process	1							

Recipe Editor sidebar:

- Process
 - Add Process
 - Edit
 - Duplicate
 - Delete
 - Delete All
- Object
 - Add Object
 - Add Delay
 - Add Pause
 - Add Marker
 - Add Checkpoint
 - Edit
 - Duplicate
 - Delete
 - Delete All
- Recipe
 - Add Component
 - Add Process
 - Edit
 - Duplicate

Logger

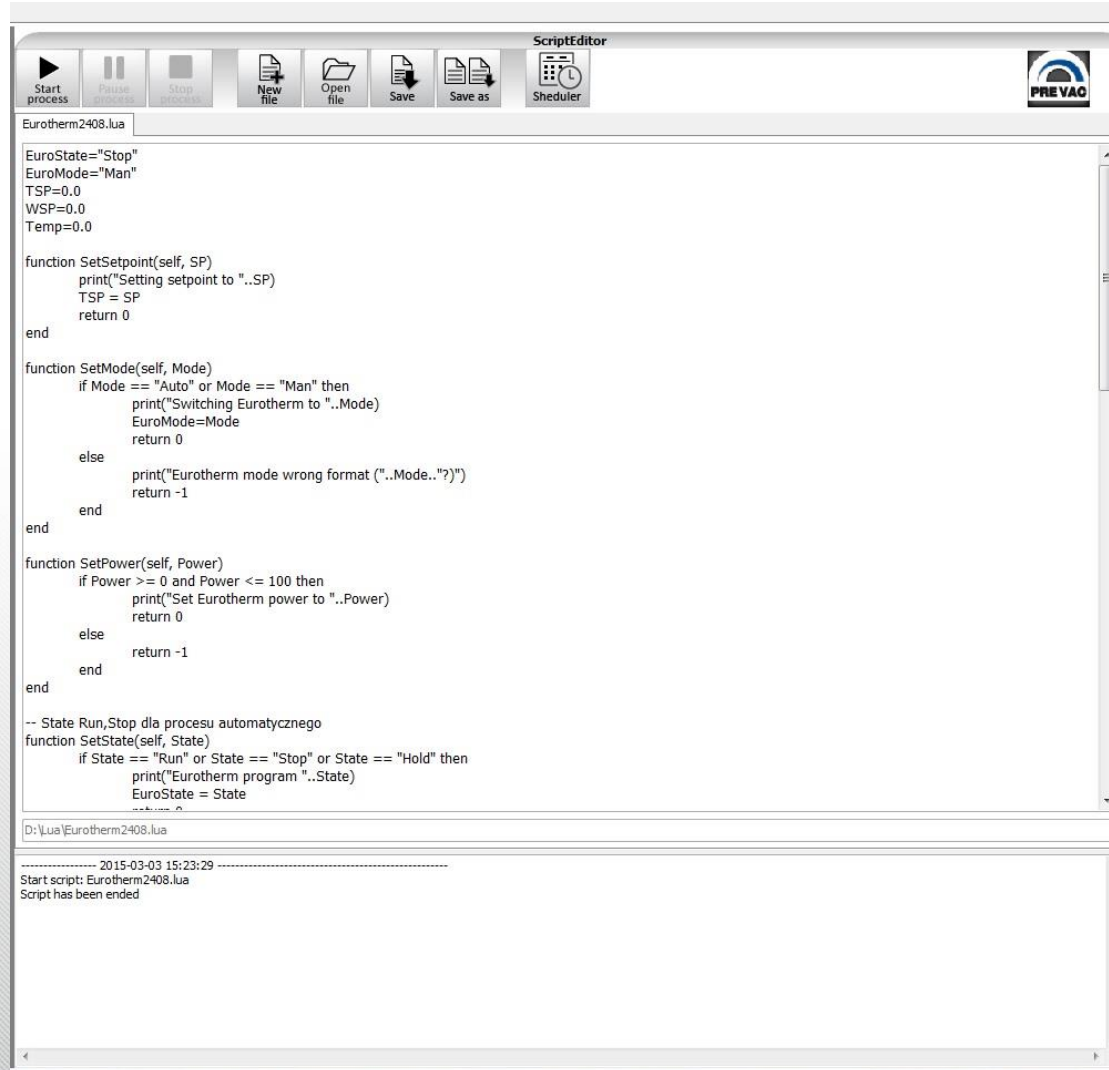
Recipe Composition | Recipe Status

.....

OK

COMPONENT: Loop/ PROCESS: Heating OBJECT: Delay / Delay Time: 1800,00 sec. / Delay Info SAFEGUARD PROCESS:

RapidSE & Recipes Script Editor



```
Eurotherm2408.lua

EuroState="Stop"
EuroMode="Man"
TSP=0.0
WSP=0.0
Temp=0.0

function SetSetpoint(self, SP)
    print("Setting setpoint to "..SP)
    TSP = SP
    return 0
end

function SetMode(self, Mode)
    if Mode == "Auto" or Mode == "Man" then
        print("Switching Eurotherm to "..Mode)
        EuroMode=Mode
        return 0
    else
        print("Eurotherm mode wrong format ("..Mode.."?)")
        return -1
    end
end

function SetPower(self, Power)
    if Power >= 0 and Power <= 100 then
        print("Set Eurotherm power to "..Power)
        return 0
    else
        return -1
    end
end

-- State Run,Stop dla procesu automatycznego
function SetState(self, State)
    if State == "Run" or State == "Stop" or State == "Hold" then
        print("Eurotherm program "..State)
        EuroState = State
    end
end

D:\Lua\Eurotherm2408.lua

----- 2015-03-03 15:23:29 -----
Start script: Eurotherm2408.lua
Script has been ended
```

RapidSE & Spectrum



The image displays two software interfaces side-by-side. The left window is 'ADMINISTRATOR MODE | Rapid SE 4.0' showing a 3D schematic of a vacuum chamber with various components labeled 'Ready' or 'Error'. A pressure gauge shows $1,48E-09$ mbar. The right window is 'Spectrum 1.0.1' showing a spectrum plot with a yellow trace and a region of interest highlighted. The plot has 'Slitless' on the y-axis and 'Energy [eV]' on the x-axis. The spectrum shows a peak at approximately 560 eV. The 'Properties' panel on the right lists parameters for the Region, Instrument, Energy, Step, and Detector.

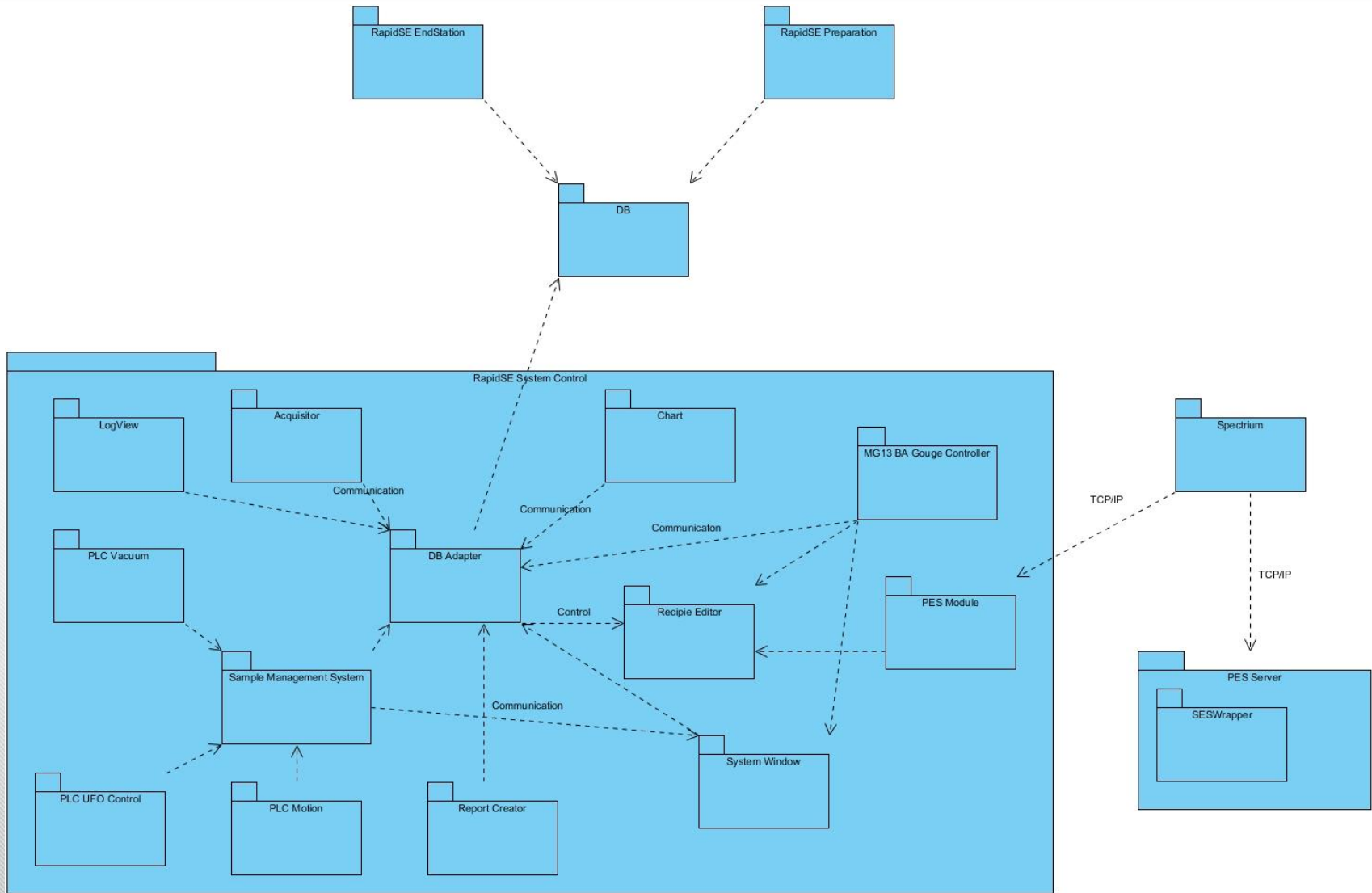
RapidSE 4.0 Interface:

- SystemWindowTransfer: 1,48E-09mbar, ST1
- ClusterSystemView: Testowa Olek [S:Scheduled], Scheduled Date: 2015-01-20 14:33:18, [P:MySeq_ANES]; [H:TestHolder13 (10x10)]; [SMP:Sampe_Srebro]
- LogView: Filter: [Empty], File Name: \LogView.log

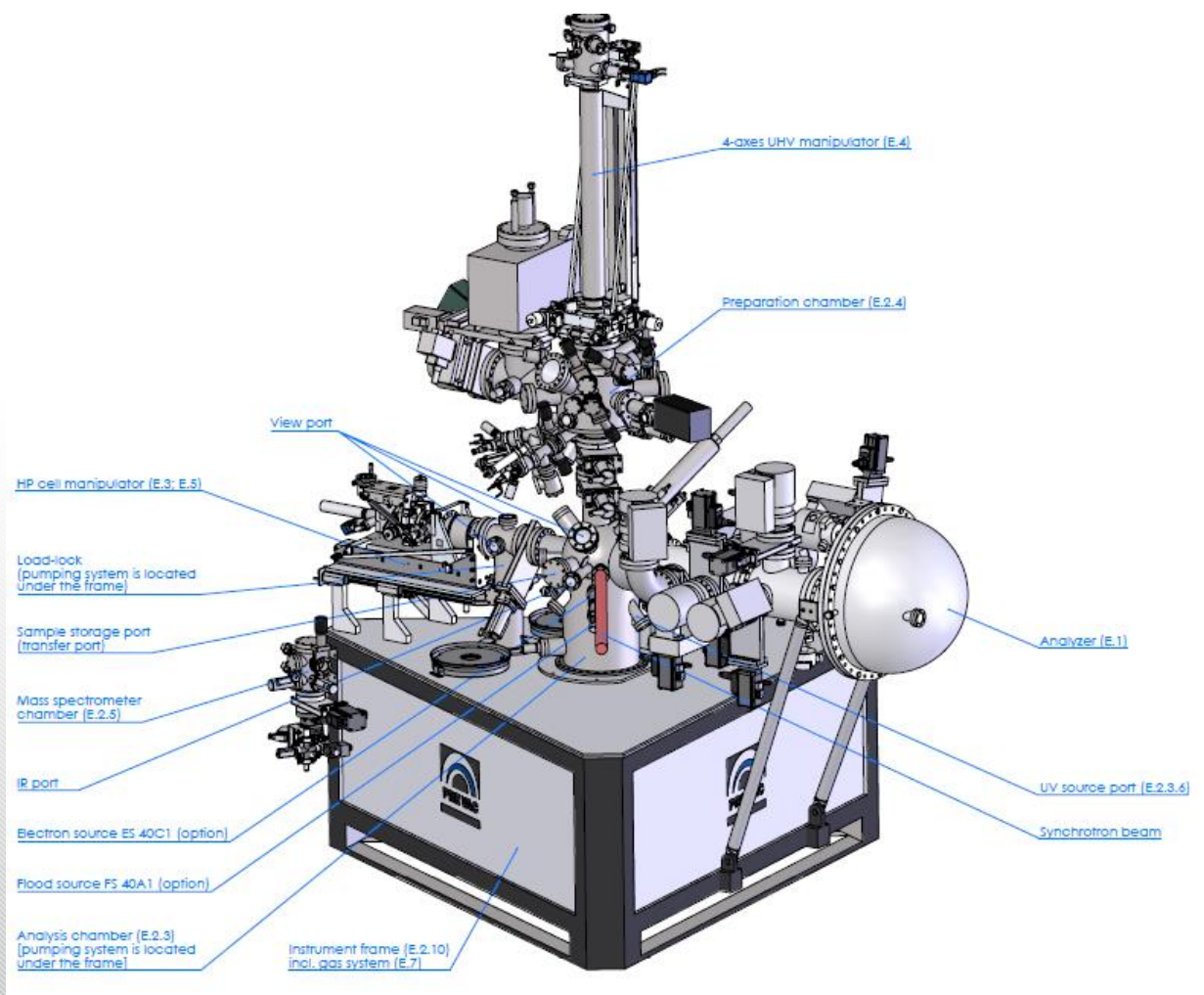
Spectrum 1.0.1 Interface:

- Region: Name: Region, Enabled: , Iterations: 1, Run Mode: Normal
- Instrument: Setup: HAXPES, Pass Energy: 200, Lens Mode: Transmission
- Energy: Center: 5.13, Low: 400, High: 600, Mode: Kinetic, Excitation: ALKa
- Step: Size: 0.2, Frames: 1, Time: 33, Acquisition M: Swept
- Detector: Enable:

RapidSE – Look under the hood



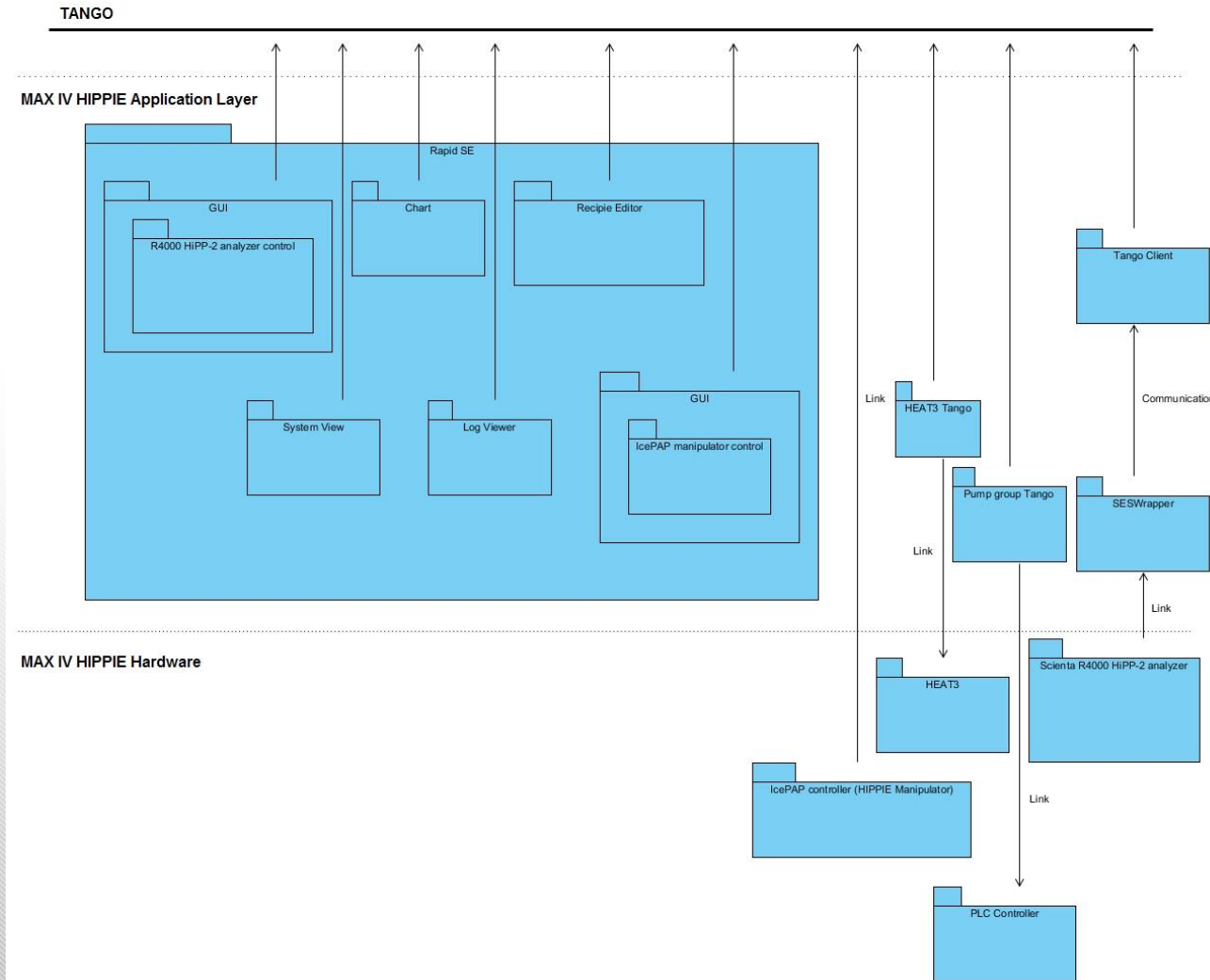
MAX IV HIPPIE Endstation



RapidSE Tango Edition - Concept



MAX IV Beamline standard software



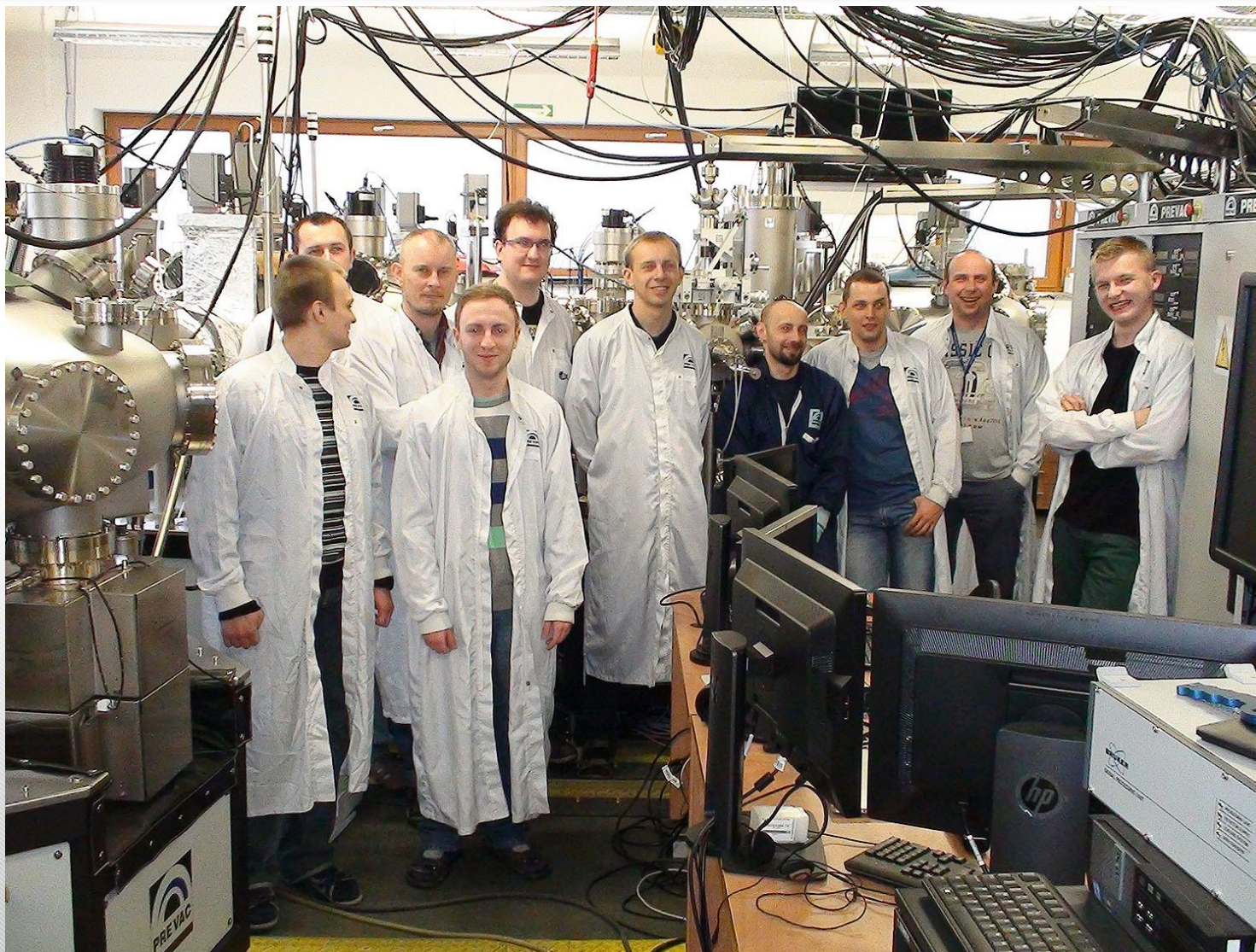


Our Motivation

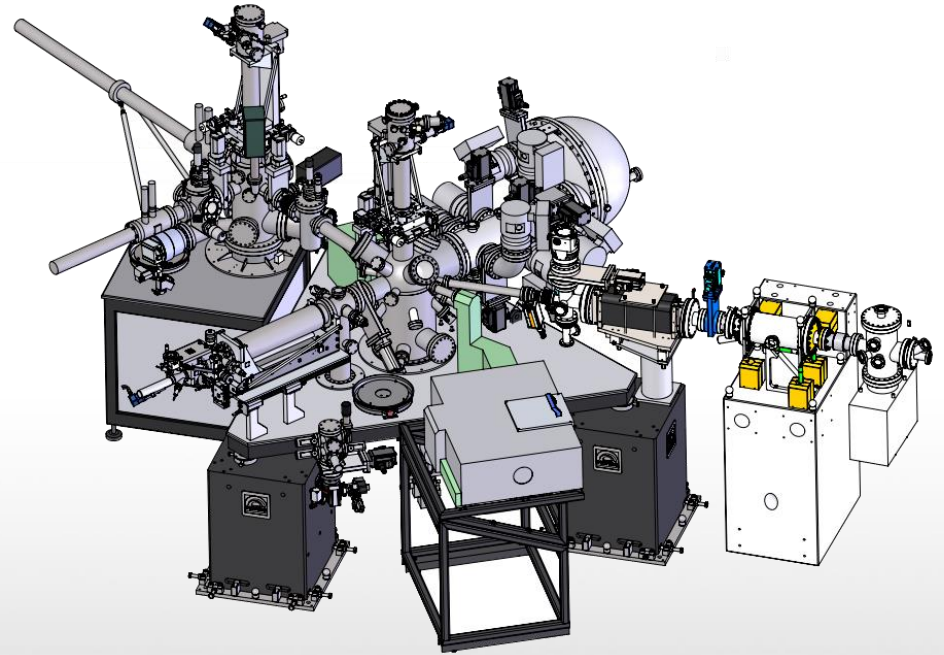
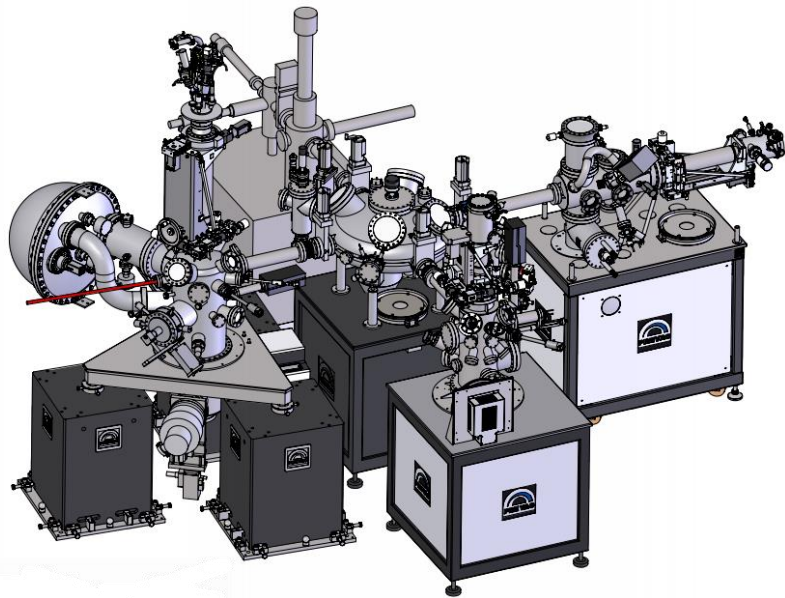
- Better and more flexible architecture
- Commercial solutions for Tango
- New users and possibilities
- The community closely related to our business



RapidSE Development Team



Thank you for your attention



From manipulator control to Tango control software