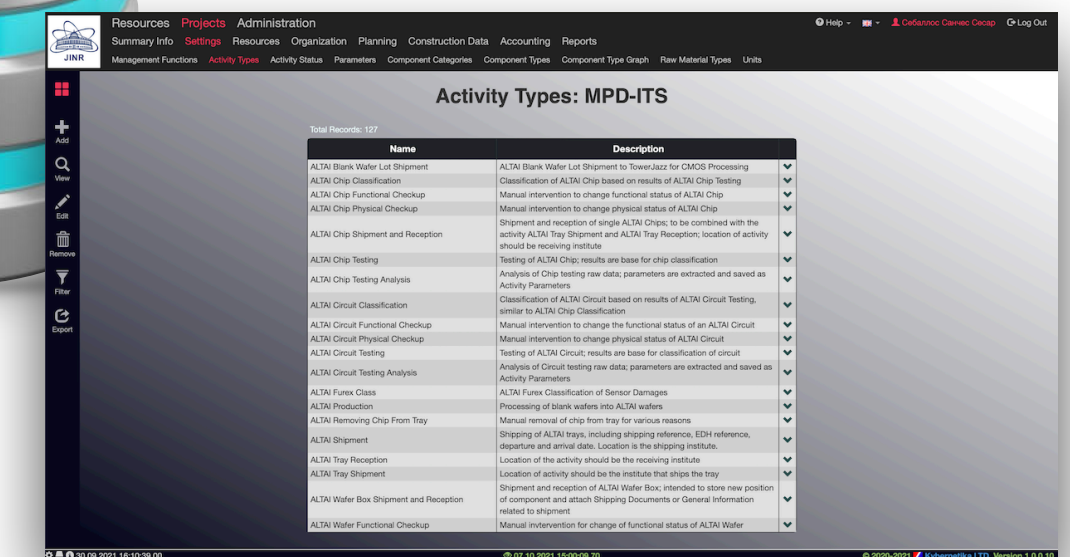


The Construction Management Information System for the MPD-ITS project (*)

(*) and beyond...

César Ceballos Sánchez (JINR) for the MPD-ITS Collaboration.



VIII-th Collaboration Meeting of the MPD Experiment at the NICA Facility - 2021.10.13



Construction Management Information System

Customer	Joint Institute for Nuclear Research 6 Joliot-Curie St Dubna Moscow Region Russia
Contact person	Yuri Murin
Date	11. 11. 2019
Authors	Ján Jadlovský Henrieta Telepovska Jakub Čerkala Vasil' Vančik

All-around multiple-projects handler.

It is composed of the following base modules:

- » **Resources Module**
 - » Members
 - » Institutes
- » **Project Module**
 - » Project Definition and Planning
 - » Project Management and Resources
 - » Construction Data
 - » Activities
 - » Finances
 - » Reports
- » **Administration**
- » **Help**

Information System for ALICE Upgrade
Construction Management System



**ALICE UPGRADE CONSTRUCTION
MANAGEMENT SYSTEM**

January 2019

Ver. 3

CERN

KYBERNETIKA, s.r.o., Košice

Orgovánová 4

040 11 Košice

Slovak republic



KYBERNETIKA s.r.o.
Automatizované systémy riadenia

Construction Management Information System

Customer

Joint Institute for Nuclear Research
6 Joliot-Curie St
Dubna
Moscow Region
Russia

Contact person

Yuri Murin

Date

11. 11. 2019

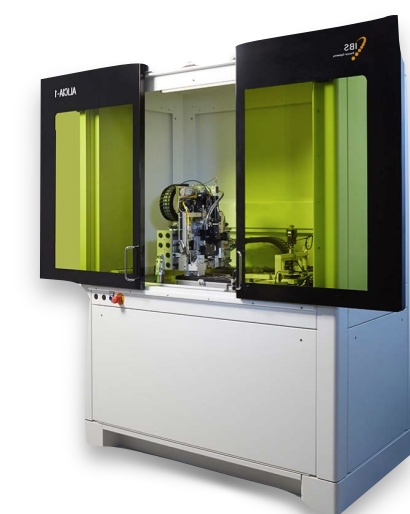
Authors

Ján Jadlovský
Henrieta Telepovska
Jakub Čerkala
Vasil' Vančik



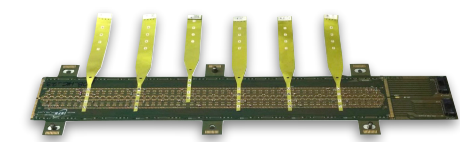
OB Stave Production

Berkely (USA), Daresbury (UK), Frascati (Italy), Nikhef (Netherlands), Turin (Italy)



OB HIC Production

Bari (Italy), Liverpool (UK), Pusan/Inha (Rep. of Korea), Strasbourg (France), Wuhan (China)



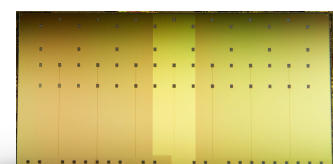
OB FPC Production

SWISS GS, Hybrid SA (Switzerland), Catania, Trieste (Italy)



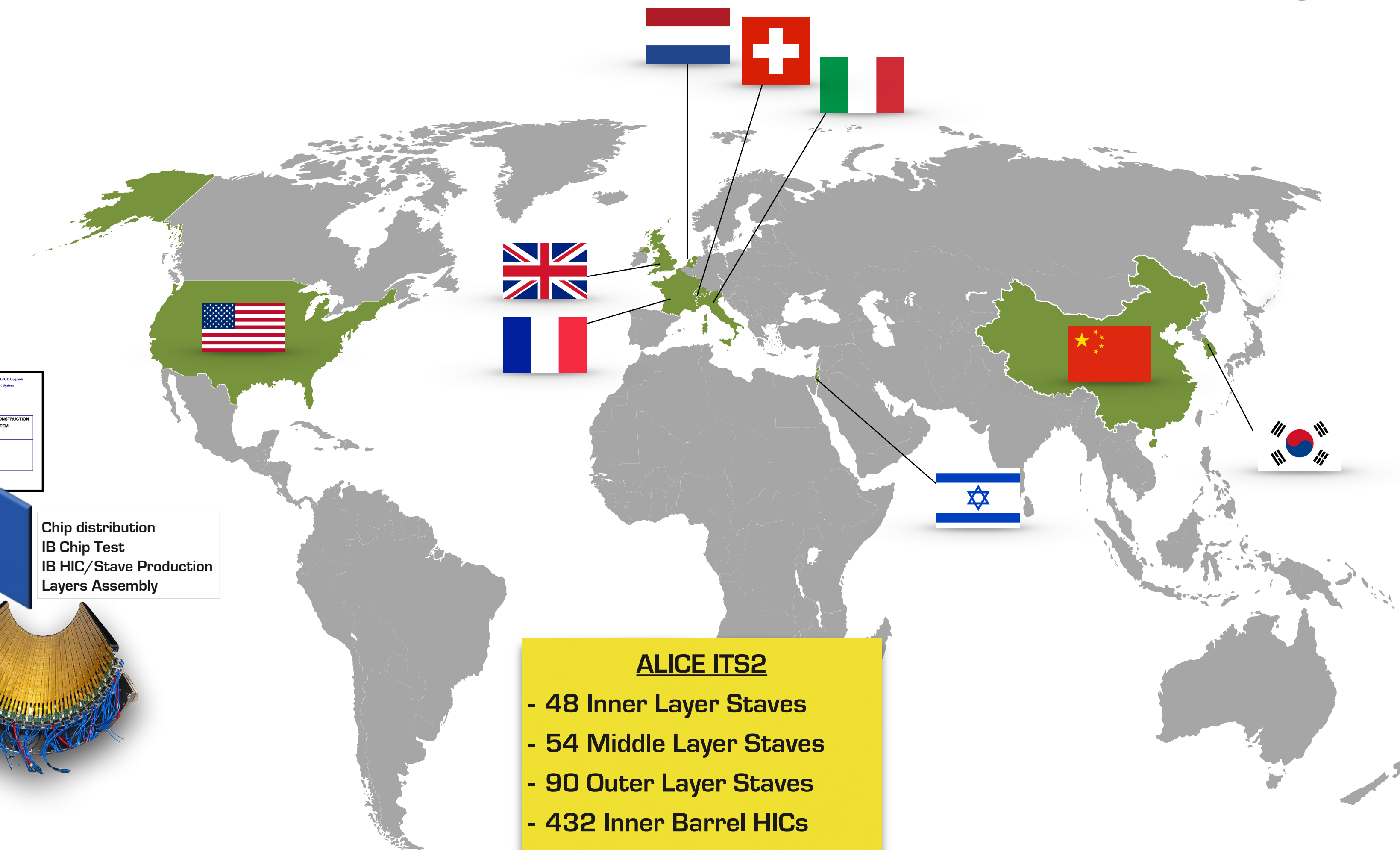
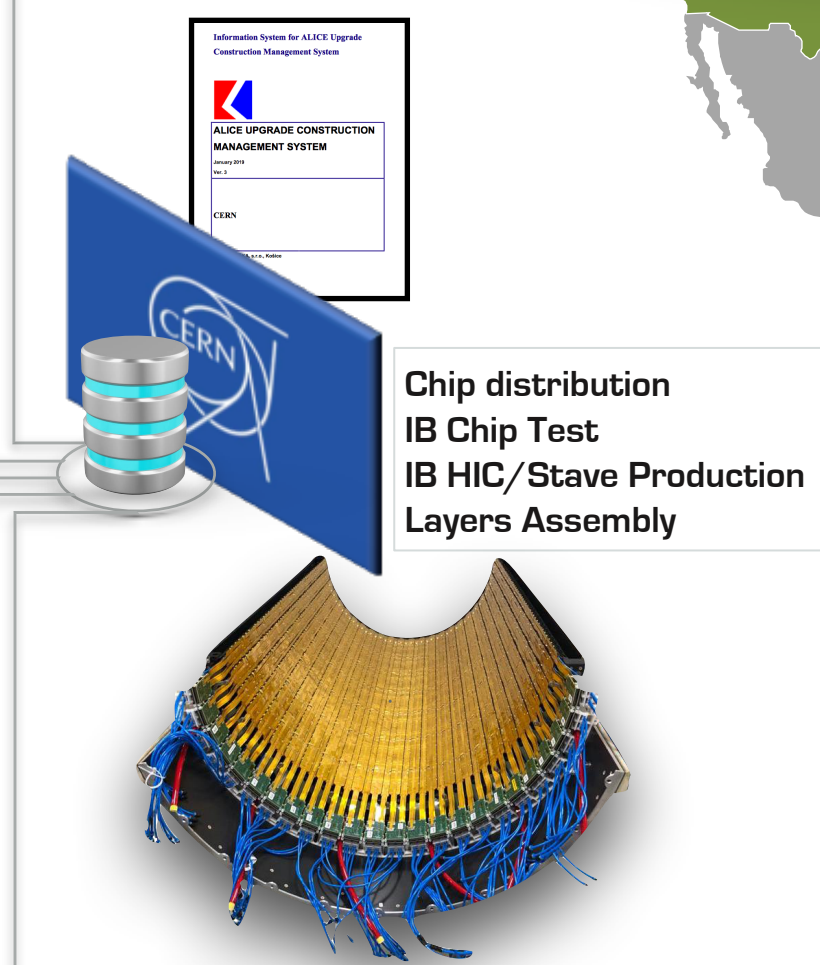
Chip Test

Pusan/Inha, Yonsei (Rep. of Korea)



Chip production

MEMC (Italy), TowerJazz (Israel), Furex (Rep. of Korea)

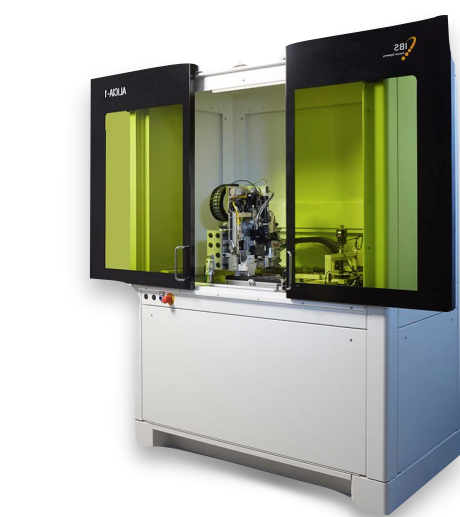


- ALICE ITS2**
- 48 Inner Layer Staves
 - 54 Middle Layer Staves
 - 90 Outer Layer Staves
 - 432 Inner Barrel HICs
 - 1692 Outer Barrel HICs
 - 27576 Pixel Chips (plus spares)



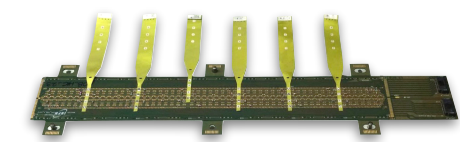
OB Stave Production

Berkely (USA), Daresbury (UK), Frascati (Italy), Nikhef (Netherlands), Turin (Italy)



OB HIC Production

Bari (Italy), Liverpool (UK), Pusan/Inha (Rep. of Korea), Strasbourg (France), Wuhan (China)



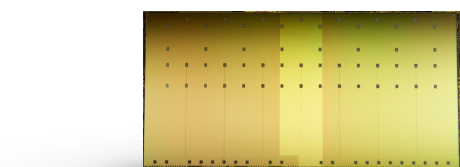
OB FPC Production

SWISS GS, Hybrid SA (Switzerland), Catania, Trieste (Italy)



Chip Test

Pusan/Inha, Yonsei (Rep. of Korea)



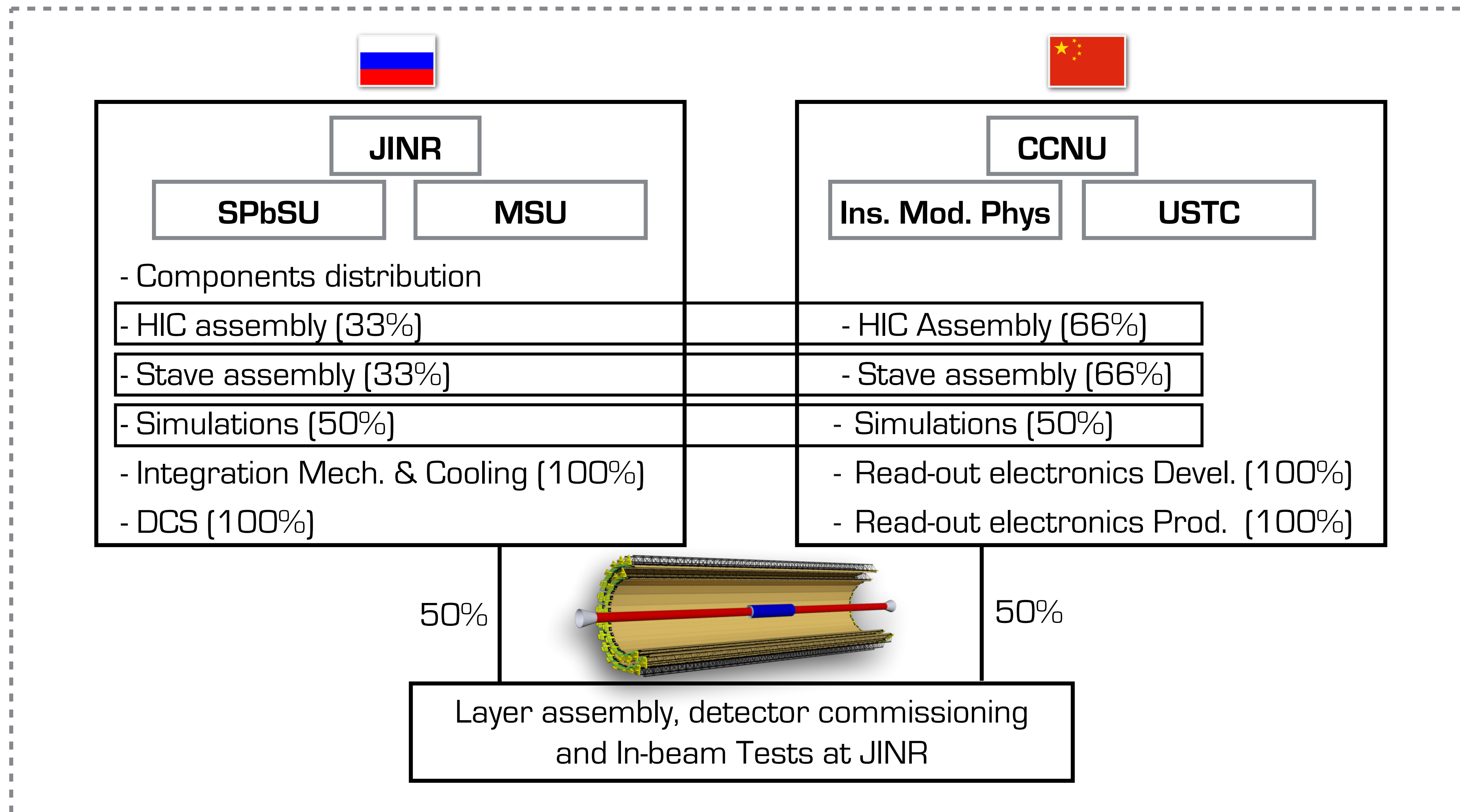
Chip production

MEMC (Italy), TowerJazz (Israel), Furex (Rep. of Korea)



ALICE ITS2
 Inner Layer Staves
 Middle Layer Staves
 Outer Layer Staves
 Inner Barrel HICs
 2 Outer Barrel HICs
 76 Pixel Chips
 (spares)

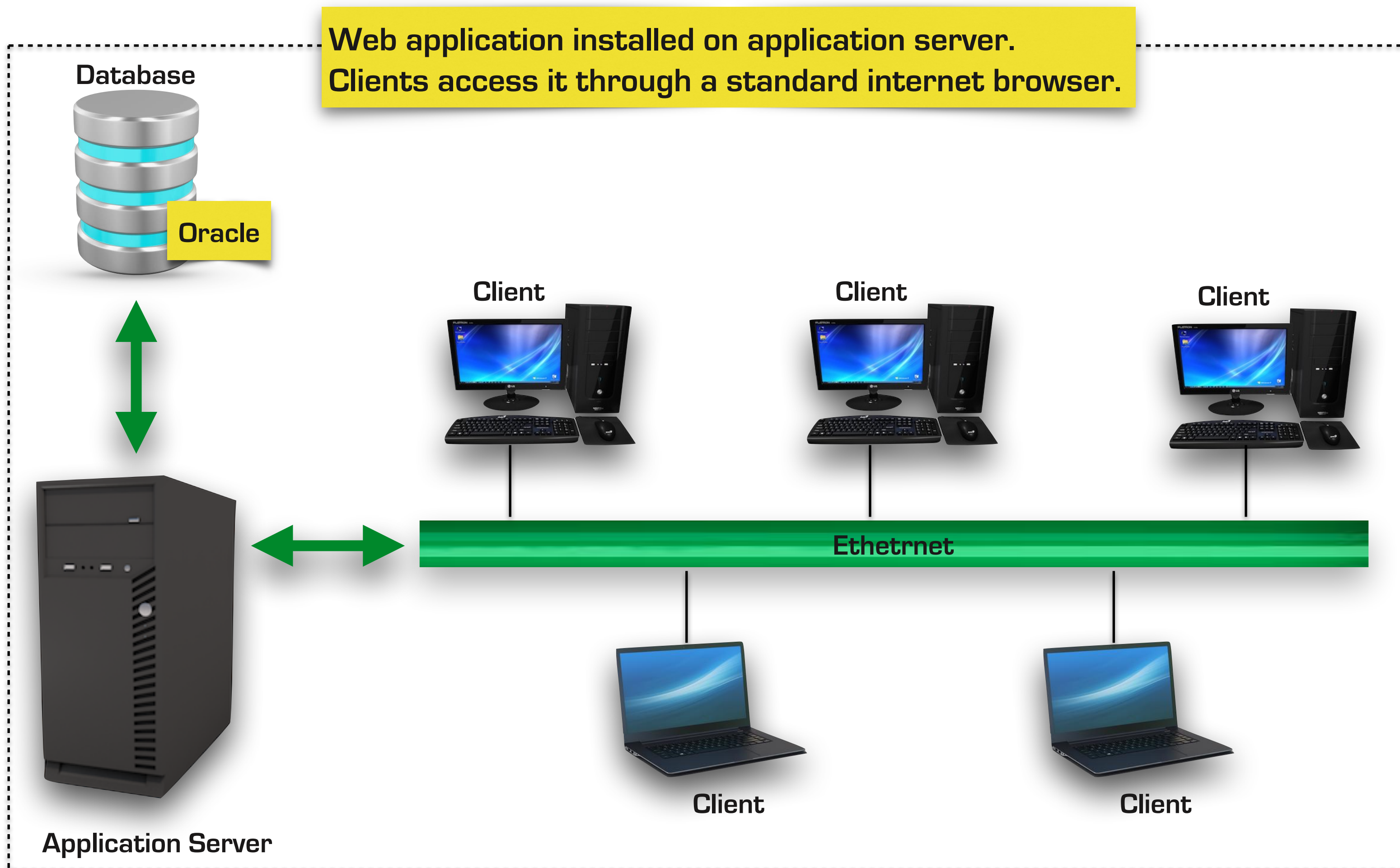
CERN supervision

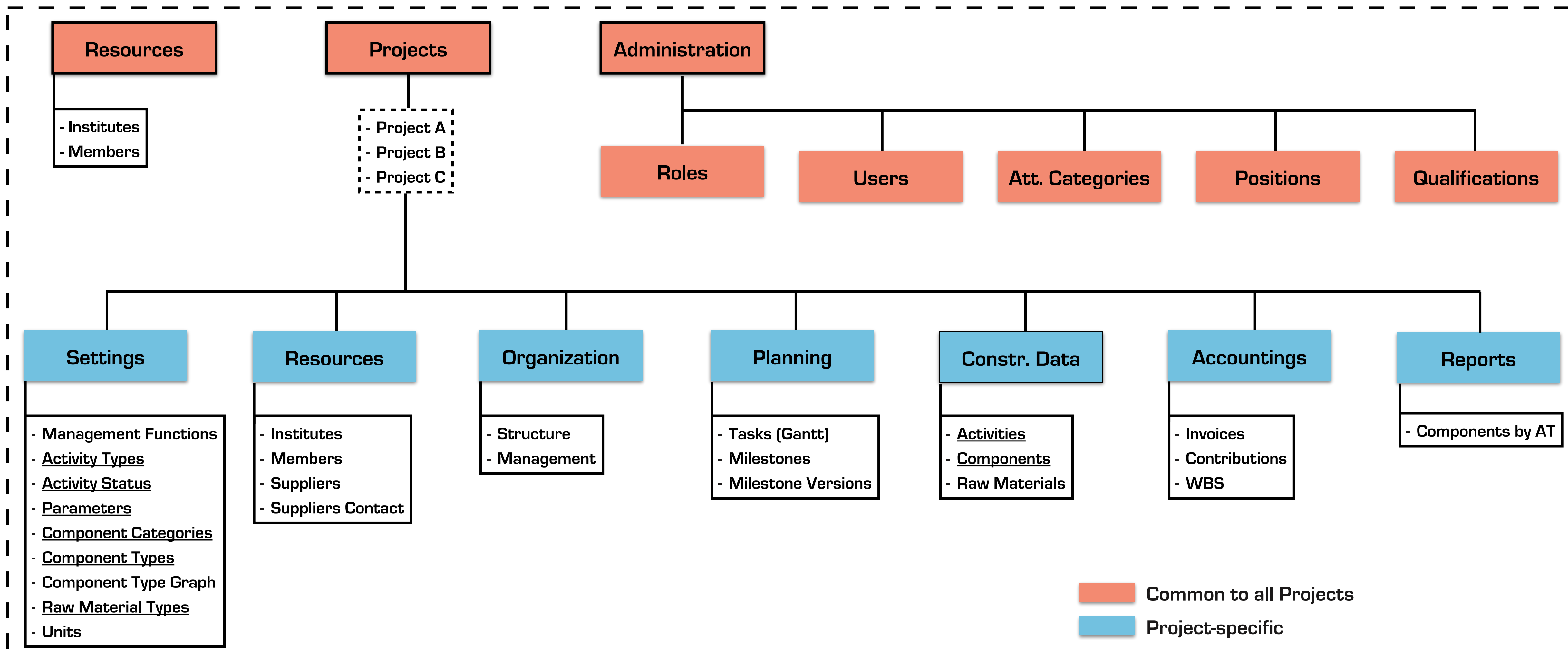


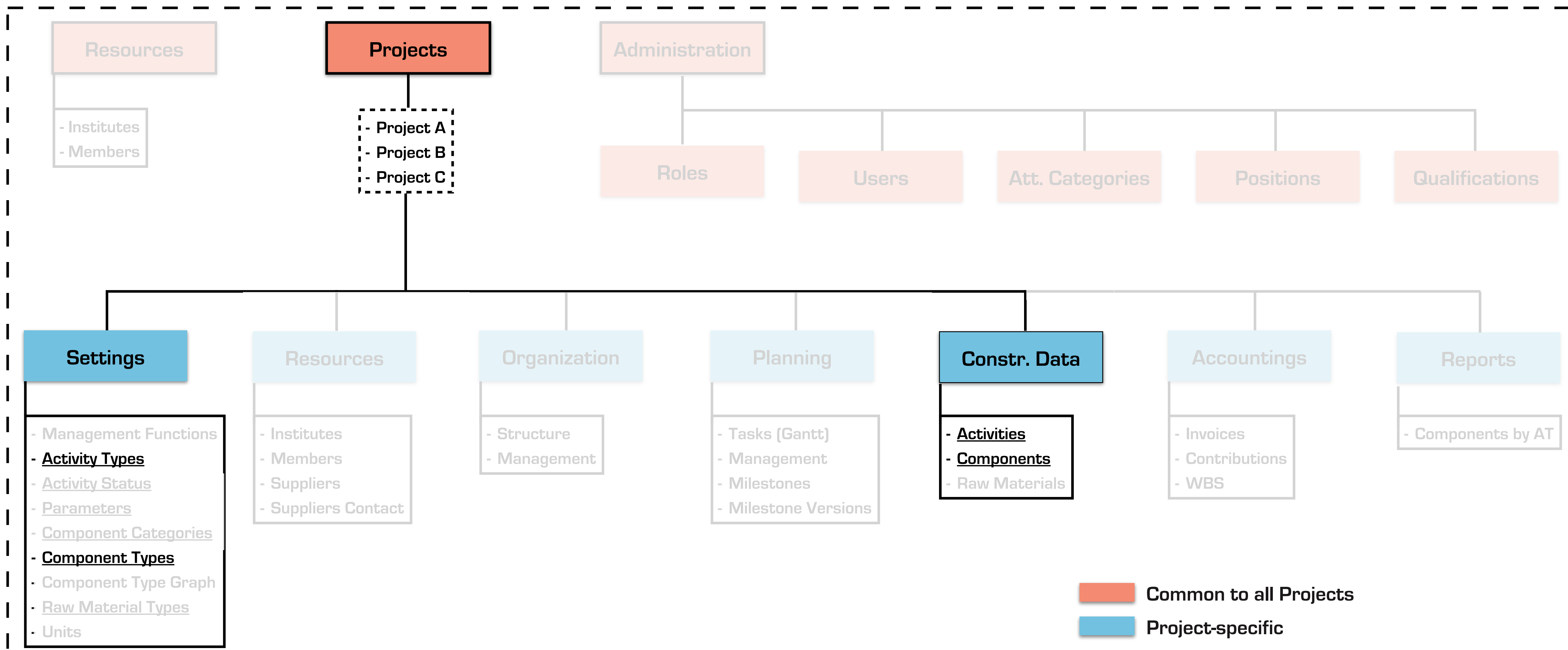


Construction Management Information System

Customer	Joint Institute for Nuclear Research 6 Joliot-Curie St Dubna Moscow Region Russia
Contact person	Yuri Murin
Date	11. 11. 2019
Authors	Ján Jadlovský Henrieta Telepovska Jakub Čerkala Vasil' Vančik







Common to all Projects
 Project-specific

Activities are **actions** performed on **Components** that may change their **Physical/Functional^(*)** status.

Activity: MAPS Chip Classification of ChipXX



Component: MAPS ChipXX



Result: MAPS ChipXX [Physical Satus] = <physical_status_value>
MAPS ChipXX [Functional Satus] = <functional_status_value>

(*) All possible Physical and Functional statuses of a component are declared on the 'Component Type' definition.
The possible result of an Activity are combinations of Physical and functional statuses and are declared on the 'Activity Type' definition.

Type

Component Type: MAPS Chip

Activity Type: MAPS Chip Classification

Instance

Component: T854193W09R41

Activity: Classification T854193W09R41

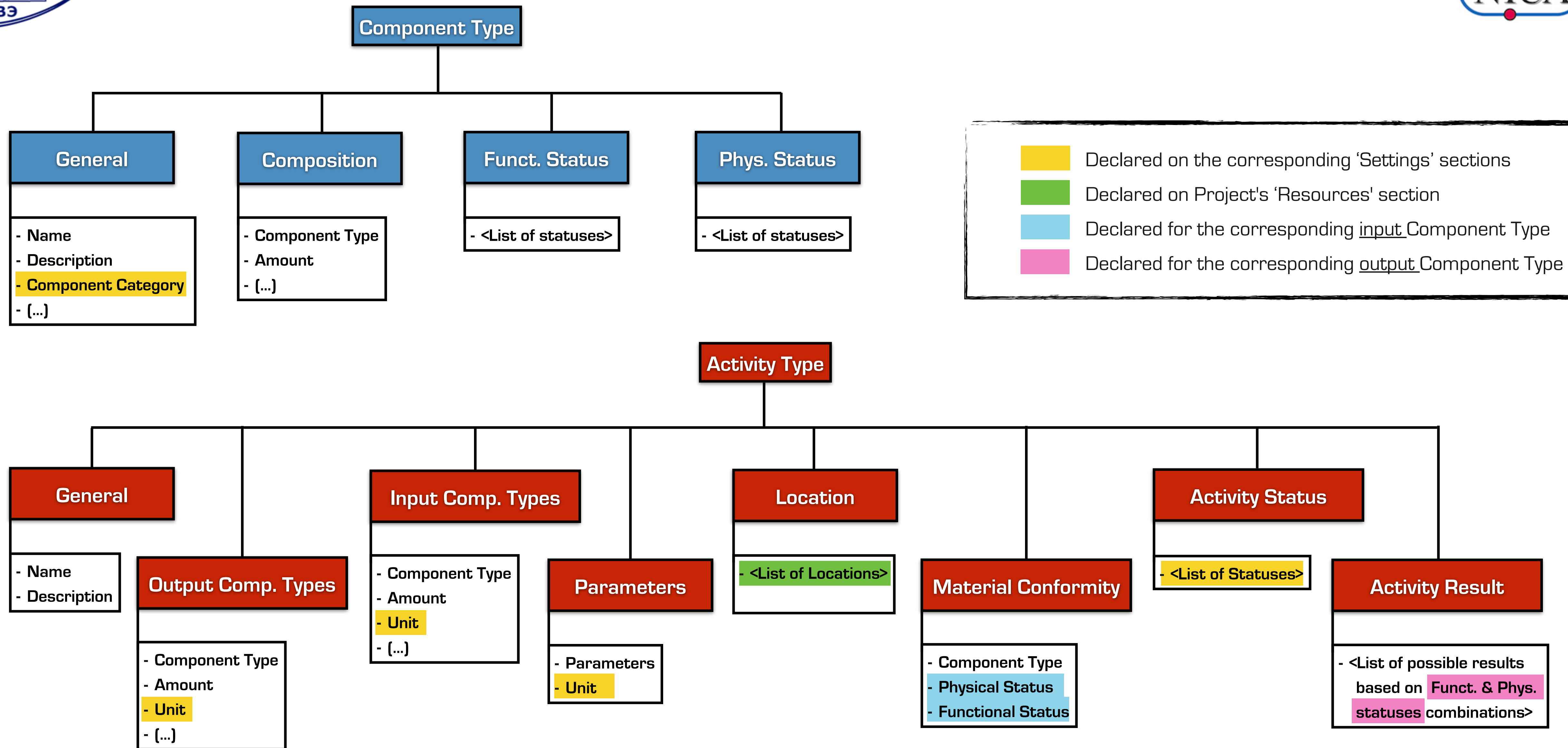
General definitions

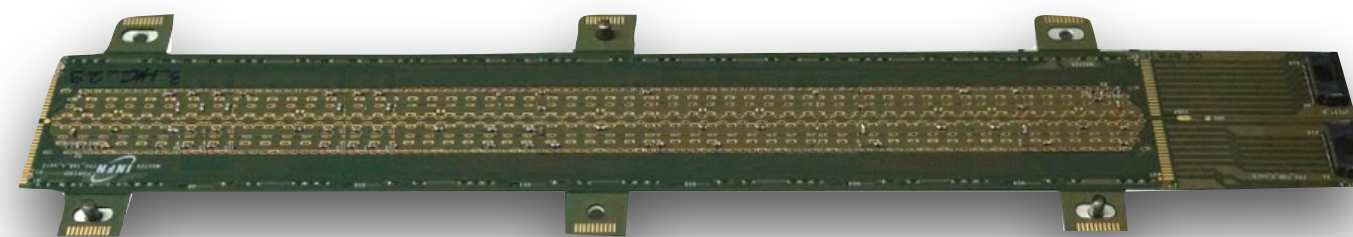
Activity Status: Open(default), Close(default),...

Component Category: Carbon support structure, Components container, ...

Parameters: Analog Current, DVDD Impedance, ...

Units: Ampere [A], Ohm [Ohm], Gram [g], ...





JINR

Resources **Projects** Administration

Summary Info **Settings** Resources Organization Planning Construction

Management Functions Activity Types Activity Status Parameters Component Categories

Total Records: 55

	Name	Description	Estimated Yield
	[294] ALTAI Chip	ALTAI Chip	1
	[295] ALTAI Circuit	ALTAI Circuit is intended for wafer p	1
	[293] ALTAI Tray	Tray containing up to 23 ALTAI chip	1
	[300] ALTAI Tray Box	Box for shipment of ALTAI Trays	1
	[292] ALTAI Wafer	CMOS Wafer containing 46 ALTAI C	1
	[291] ALTAI Wafer Box	Wafer Box containg up to 25 ALTAI	1
	[290] ALTAI Wafer Lot	Lot of up to 25 ALTAI Wafers which over up to 5 ALPIDEB Wafer Boxes	1
	[306] Blank Outer Barrel FPC	Blank Outer Barrel FPC as delivered Cross-Cable soldering	0.75
	[309] Blank Outer Barrel FPC Box	Box for Blank Outer Barrel FPC shi	1
	[307] Blank Outer Barrel FPC Lot	Blank OB FPC Lot, as delivered by	1
	[279] Blank Wafer	Blank Wafer for CMOS Processing	1

Edit Existing Component Type

General
Composition
Functional Status
Physical Status

*** Name**

*** Code**

*** Description**

*** Component Category**

*** Nominal Quantity**

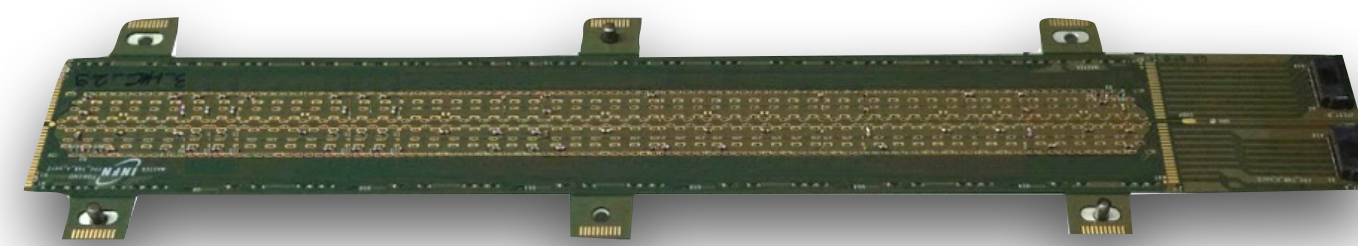
*** Fraction Of Working Spares**

*** Total Quantity Of Working Components**

*** Estimated Yield**

*** Total Quantity To Be Manufactured**

Previously declared on 'Settings → Component Categories'



Resources **Projects** Administration
 Summary Info **Settings** Resources Organization Planning Construction D
 Management Functions Activity Types Activity Status Parameters Component Categories

JINR

Total Records: 55

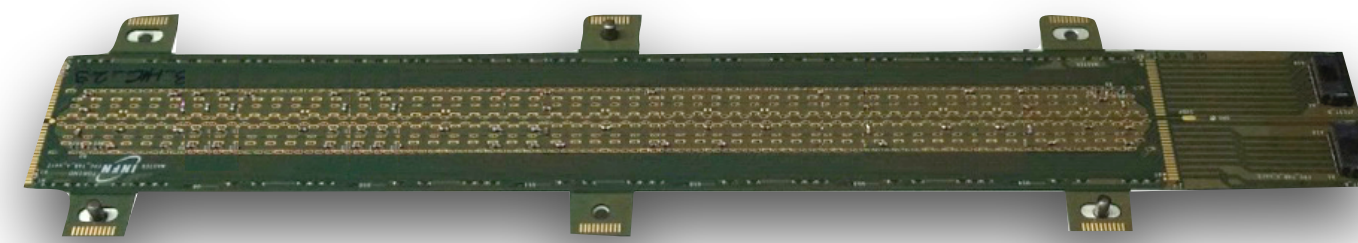
Name	Description	Code	Amount	Unit	Valid From	Valid To	Estimated Yield	Total Quantity To Be Manufactured
[294] ALTAI Chip	ALTAI Chip						1	64400
[295] ALTAI Circuit	ALTAI Circuit is intended for wafer p						1	64400
[293] ALTAI Tray	Tray containing up to 23 ALTAI chips						1	2800
[300] ALTAI Tray Box	Box for shipment of ALTAI Trays	ALPIDEB_TRAYBOX	0			100	1	100
[292] ALTAI Wafer	CMOS Wafer containing 46 ALTAI Circuits	WFR_ALPIDEB	0			1400	1	1400
[291] ALTAI Wafer Box	Wafer Box containg up to 25 ALTAI Wafers	WFRBOX_ALPIDEB	0			56	1	56
[290] ALTAI Wafer Lot	Lot of up to 25 ALTAI Wafers which can be divided and shipped over up to 5 ALPIDEB Wafer Boxes	WFRLOT_ALPIDEB	0			56	1	56
[306] Blank Outer Barrel FPC	Blank Outer Barrel FPC as delivered by OB FPC producer, before Cross-Cable soldering	BLOBFPC	0.2			750	0.75	1313
[309] Blank Outer Barrel FPC Box	Box for Blank Outer Barrel FPC shipment	BOBFPCBX	0			1	1	1
[307] Blank Outer Barrel FPC Lot	Blank OB FPC Lot, as delivered by OB FPC producer	BLOBFPCCL	0			1	1	1
[279] Blank Wafer	Blank Wafer for CMOS Processing	BWf	0			1550	1	1550
[289] Blank Wafer Box 25um Epi	Box containing 25 blank wafers with 25um epi, that will typically be processed into one ALPIDE wafer lot	BWFRBOX_25EPI	0			56	1	56
	Lot of blank wafers with 25um epitaxial layer thickness. Contains							


Edit Existing Component Type

General **Composition** Functional Status Physical Status

* Component Type	* Amount	* Unit	* Valid From	Valid To	+
No data					

02.09.2021 17:14:47.00 08.10.2021 15:27:46.39





JINR

Resources **Projects** Administration

Summary Info **Settings** Resources Organization Planning Construction D

Management Functions Activity Types Activity Status Parameters Component Categories

Total Records: 55

	Name	Description		Estimated Yield	Total Quantity To Be Manufactured
✎	[294] ALTAI Chip	ALTAI Chip		1	64400
✎	[295] ALTAI Circuit	ALTAI Circuit is intended for wafer p		1	64400
✎	[293] ALTAI Tray	Tray containing up to 23 ALTAI chips		1	2800
✎	[300] ALTAI Tray Box	Box for shipment of ALTAI Trays		1	100
✎	[292] ALTAI Wafer	CMOS Wafer containing 46 ALTAI C		1	1400
✎	[291] ALTAI Wafer Box	Wafer Box containg up to 25 ALTAI		1	56
✎	[290] ALTAI Wafer Lot	Lot of up to 25 ALTAI Wafers which can be divided and shipped over up to 5 ALPIDEB Wafer Boxes	WFRLOT_ALPIDEB	1	56
✎	[306] Blank Outer Barrel FPC	Blank Outer Barrel FPC as delivered by OB FPC producer, before Cross-Cable soldering	BLOBFPC	0.75	1313
✎	[309] Blank Outer Barrel FPC Box	Box for Blank Outer Barrel FPC shipment	BOBFPCBX	1	1
✎	[307] Blank Outer Barrel FPC Lot	Blank OB FPC Lot, as delivered by OB FPC producer	BLOBFPCCL	1	1
✎	[279] Blank Wafer	Blank Wafer for CMOS Processing	BWf	1	1550
✎	[289] Blank Wafer Box 25um Epi	Box containing 25 blank wafers with 25um epi, that will typically be processed into one ALPIDE wafer lot	BWFRBOX_25EPI	1	56
		Lot of blank wafers with 25um epitaxial layer thickness. Contains			

Edit Existing Component Type ✕

General
Composition
Functional Status
Physical Status

Functional Status +

NOK
✕

OK
✕

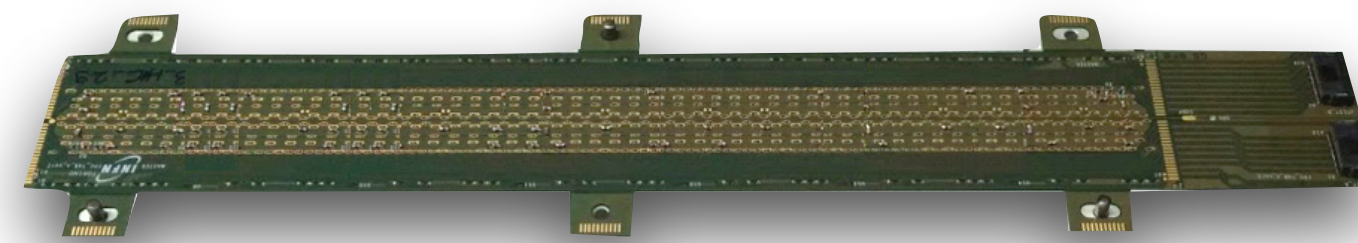
[EMPTY]
✕

Save
Cancel



02.09.2021 17:14:47.00


08.10.2021 15:27:46.39



Resources **Projects** Administration

Summary Info **Settings** Resources Organization Planning Construction D

Management Functions Activity Types Activity Status Parameters Component Categories

Total Records: 55

	Name	Description	Estimated Yield	Total Quantity To Be Manufactured
	[294] ALTAI Chip	ALTAI Chip	1	64400
	[295] ALTAI Circuit	ALTAI Circuit is intended for wafer p	1	64400
	[293] ALTAI Tray	Tray containing up to 23 ALTAI chips	1	2800
	[300] ALTAI Tray Box	Box for shipment of ALTAI Trays	1	100
	[292] ALTAI Wafer	CMOS Wafer containing 46 ALTAI C	1	1400
	[291] ALTAI Wafer Box	Wafer Box containg up to 25 ALTAI wafers	1	56
	[290] ALTAI Wafer Lot	Lot of up to 25 ALTAI Wafers which can be divided and shipped over up to 5 ALPIDEB Wafer Boxes	1	56
	[306] Blank Outer Barrel FPC	Blank Outer Barrel FPC as delivered by OB FPC producer, before Cross-Cable soldering	0.75	1313
	[309] Blank Outer Barrel FPC Box	Box for Blank Outer Barrel FPC shipment	1	1
	[307] Blank Outer Barrel FPC Lot	Blank OB FPC Lot, as delivered by OB FPC producer	1	1
	[279] Blank Wafer	Blank Wafer for CMOS Processing	1	1550
	[289] Blank Wafer Box 25um Epi	Box containing 25 blank wafers with 25um epi, that will typically be processed into one ALPIDE wafer lot	1	56
		Lot of blank wafers with 25um epitaxial layer thickness. Contains		

Edit Existing Component Type ✕

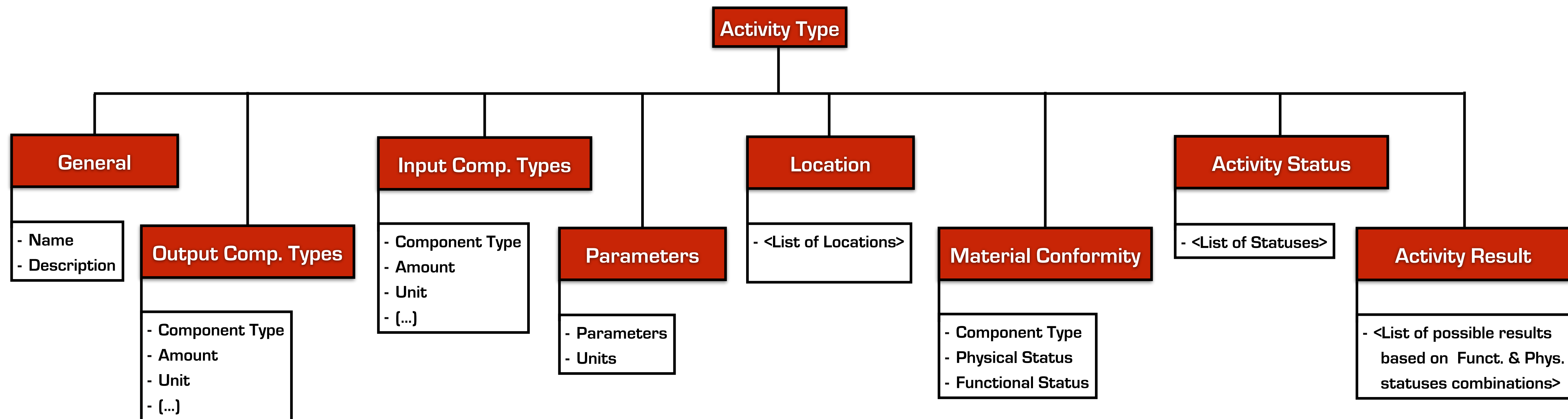
General Composition Functional Status **Physical Status** (!)

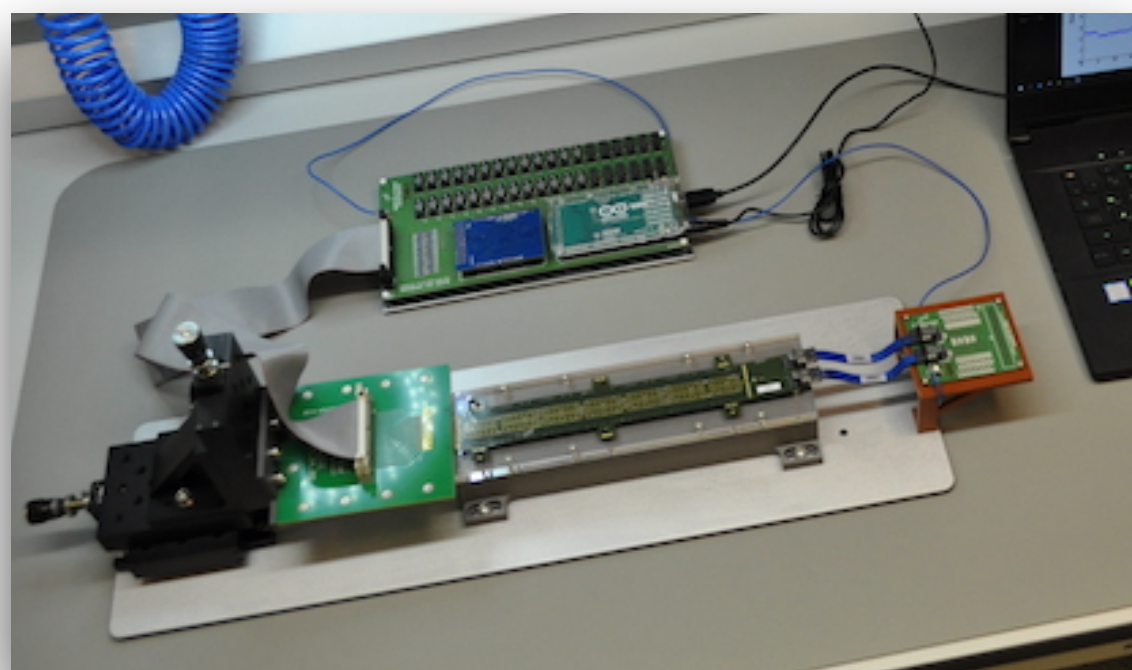
Physical Status +

NOK	✕
OK	✕
[EMPTY]	

Save
Cancel

02.09.2021 17:14:47.00
08.10.2021 15:28:26.31





Resources Projects Administration
 Summary Info Settings Resources
 Management Functions Activity Types Acti

JINR

Units
 Help ▾

Edit Existing Activity Type

General Output Component Types ¹ Input Component Types ¹ Parameters
 Location ¹ Mat. Conformity Activity Status ² Activity Result ³

*** Name**
 Blank Outer Barrel FPC Electrical Test

Description
 Electrical test of Blank OB FPC

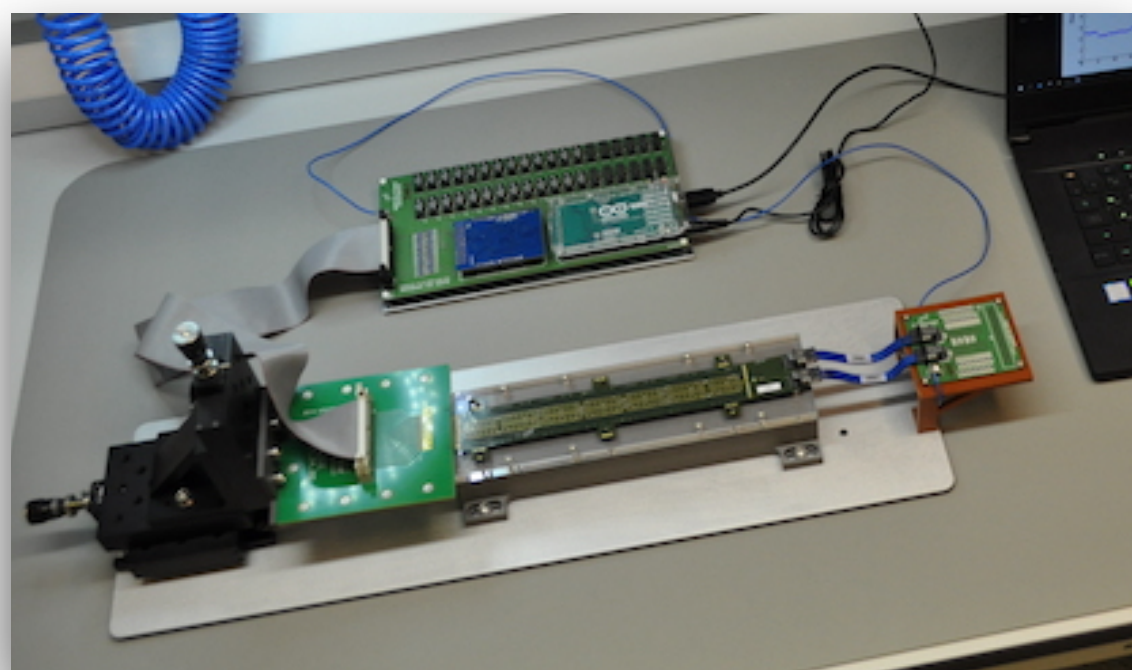
Activity Type is Assembly Yes No

Save Cancel

Parameters

Parameter	Unit
No Parameter records found	
Location	
Name	
[287] - [INS_241] Joint Institute for Nuclear Research (JINR), Dubna	
Mat. Conformity	
Component Type	Functional Status
	Physical Status

02.09.2021 17:14:47.00 11.10.2021 15:06:40.99



JINR
Resources Projects Administration

Summary Info Settings Resources
Management Functions Activity Types Acti

Edit Existing Activity Type

General
Output Component Types 1
Input Component Types 1
Parameters

Location 1
Mat. Conformity
Activity Status 2
Activity Result 3

* Component Type	* Amount	* Unit	* Valid From	Valid To	
Blank Outer Barrel FPC	1	pc	20.02.2018	Select date...	✕

Previously declared on 'Settings → Units'

Save
✕ Cancel

[368] Blank Outer Barrel FPC Electrical Test
Electrical test of Blank OB FPC

Component Type			
Component Type	Direction	Amount	Unit
[729] Blank Outer Barrel FPC	Output	1	[361] pc
[730] Blank Outer Barrel FPC	Input	1	[361] pc

Parameters

Parameter	Unit
No Parameter records found	

Location

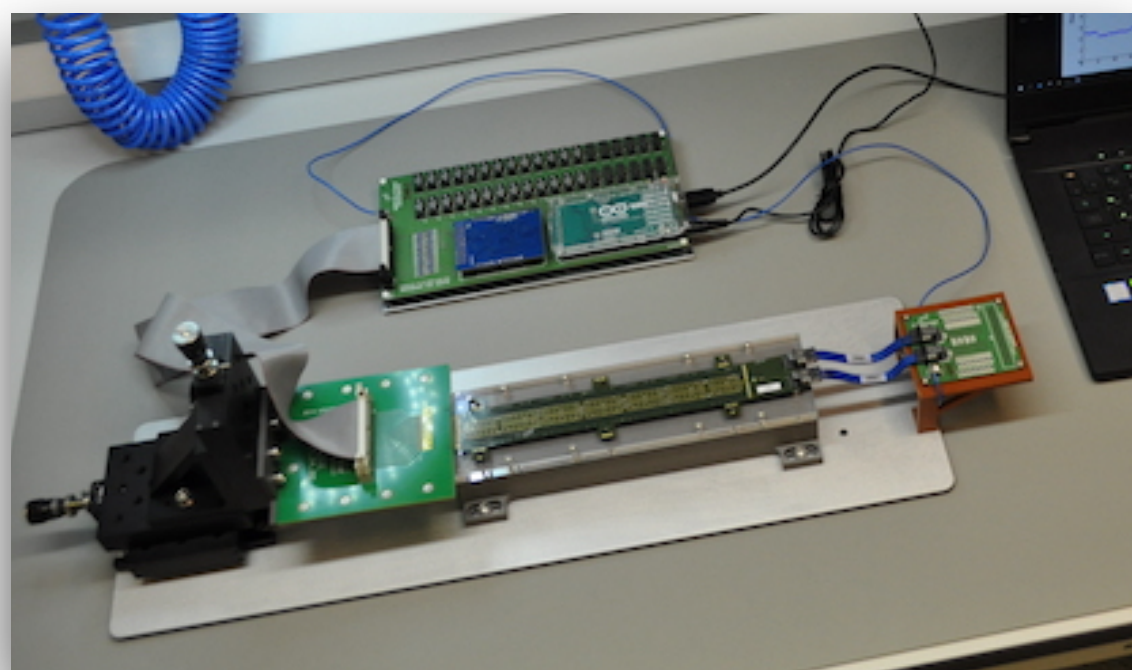
Name

[287] - [INS_241] Joint Institute for Nuclear Research (JINR), Dubna

Mat. Conformity

Component Type	Functional Status	Physical Status

02.09.2021 17:14:47.00
11.10.2021 15:06:40.99



Resources Projects Administration
Summary Info Settings Resources
Management Functions Activity Types Acti

Units
Help ▾

Electrical

[368] Blank Outer Barrel FPC Electrical Test | Electrical test of Blank OB FPC

Component Type

Component Type	Direction	Amount	Unit
[729] Blank Outer Barrel FPC	Output	1	[361] pc
[730] Blank Outer Barrel FPC	Input	1	[361] pc

Parameters

Parameter	Unit
No Parameter records found	

Location

Name

[287] - [INS_241] Joint Institute for Nuclear Research (JINR), Dubna

Mat. Conformity

Component Type	Functional Status	Physical Status

⚙️
🕒 02.09.2021 17:14:47.00
👁️ 11.10.2021 15:06:40.99
©

Component Type

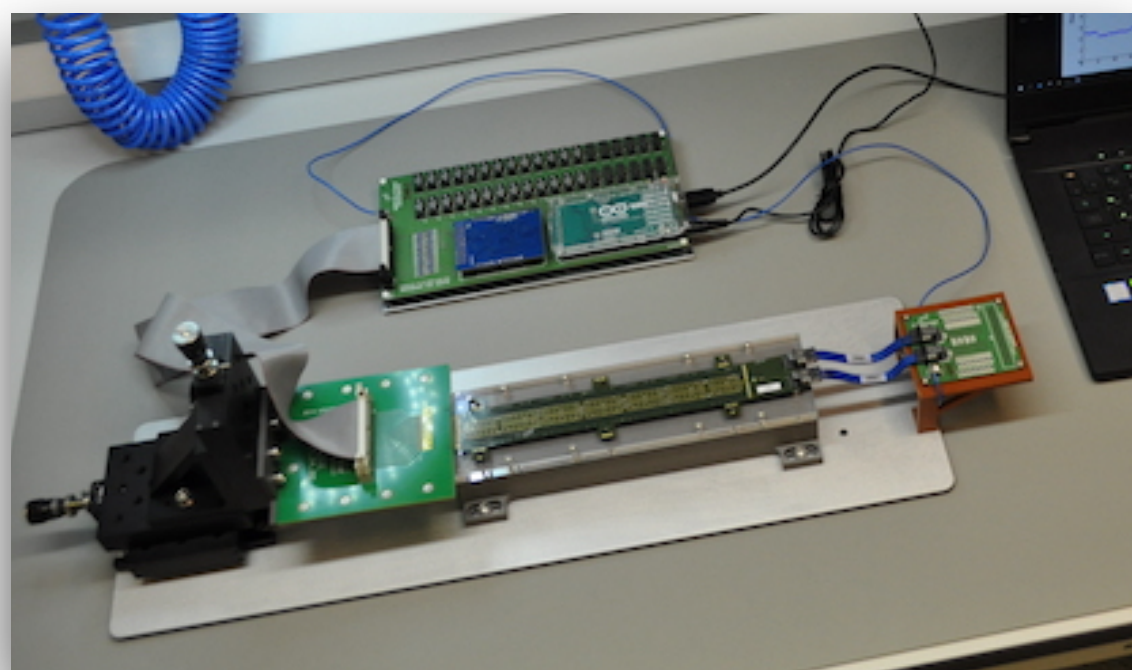
* Component Type	* Amount	* Unit	* Valid From	Valid To
Blank Outer Barrel FPC	1	pc	20.02.2018	Select date...

Previously declared on 'Settings → Units'

Input Component Types 1

Location 1 Mat. Conformity Activity Status 2 Activity Result 3

Save Cancel



Resources Projects Administration

Summary Info Settings Resources

Management Functions Activity Types Acti

JINR

Add View Edit Remove Filter Export

Activity

Edit Existing Activity Type

General Output Component Types 1 Input Component Types 1 Parameters

Location 1 Mat. Conformity Activity Status 2 Activity Result 3

Parameter	Unit
No Parameter records found	

+ Add 5 slots
+ Add 10 slots
+ Add 20 slots
+ Add 50 slots

Save
Cancel

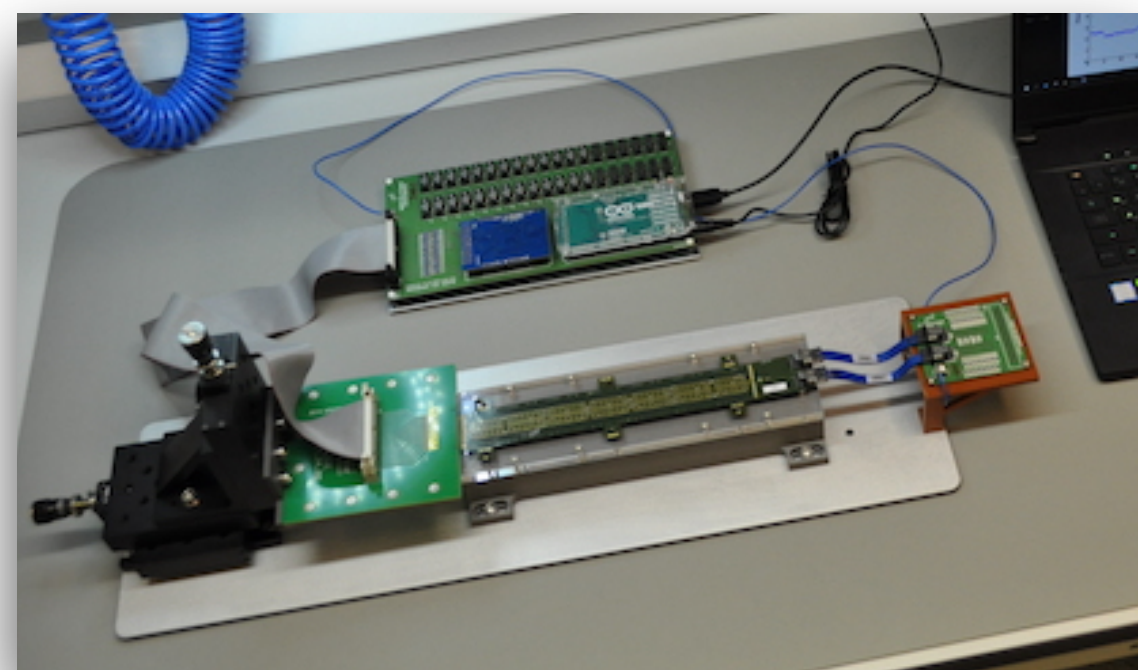
Component Type	Direction	Amount	Unit
[729] Blank Outer Barrel FPC	Output	1	[361] pc
[730] Blank Outer Barrel FPC	Input	1	[361] pc

Parameter	Unit
No Parameter records found	

Location
[287] - [INS_241] Joint Institute for Nuclear Research (JINR), Dubna

Mat. Conformity	Functional Status	Physical Status
[287] - [INS_241] Joint Institute for Nuclear Research (JINR), Dubna		

02.09.2021 17:14:47.00
11.10.2021 15:06:40.99



Resources Projects Administration
 Summary Info Settings Resources
 Management Functions Activity Types Activ...

Edit Existing Activity Type

General Output Component Types **1** Input Component Types **1** Parameters
 Location **2** Mat. Conformity Activity Status **2** Activity Result **3**

Location +

- Central China Normal University, Whuan
- JINR, Dubna

Previously declared on 'Projects → Resources → Institutes'

Save Cancel

Component Type			
Component Type	Direction	Amount	Unit
[729] Blank Outer Barrel FPC	Output	1	[361] pc
[730] Blank Outer Barrel FPC	Input	1	[361] pc

Parameters

Parameter	Unit
No Parameter records found	

Location

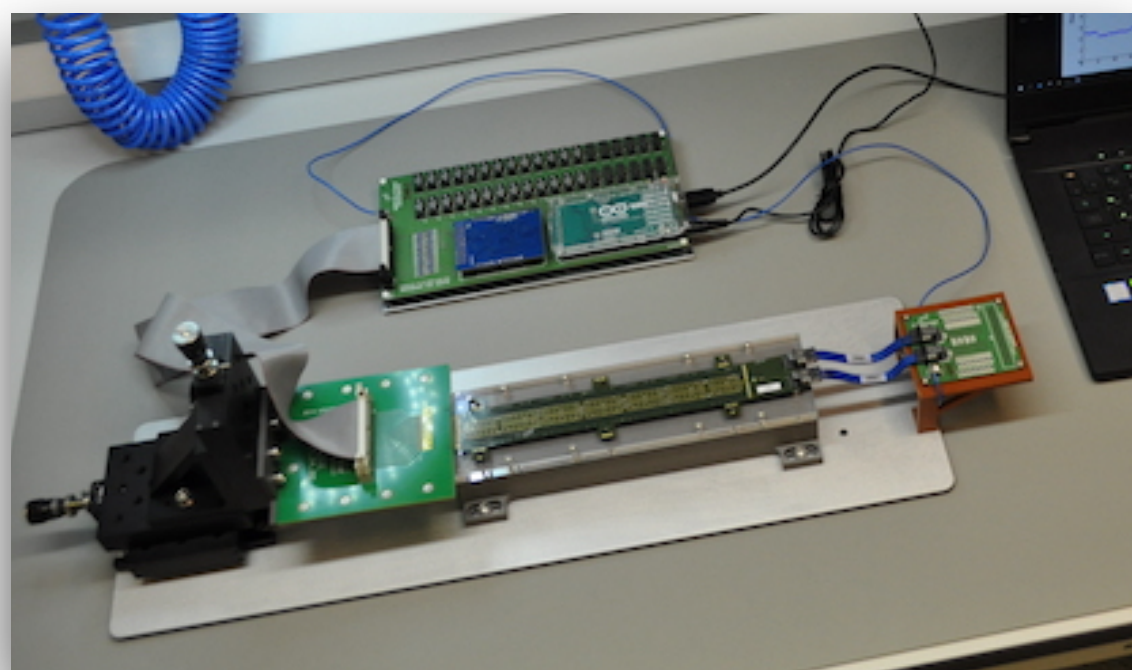
Name

- [341] - [INS_262] Central China Normal University, Whuan
- [287] - [INS_241] Joint Institute for Nuclear Research (JINR), Dubna

Mat. Conformity

Component Type	Functional Status	Physical Status
----------------	-------------------	-----------------

02.09.2021 17:14:47.00 11.10.2021 23:30:20.69



Resources Projects Administration
Summary Info Settings Resources
Management Functions Activity Types Acti

JINR
Units
Help

+ Add
🔍 View
✎ Edit
🗑 Remove
🏠 Filter
📄 Export

Edit Existing Activity Type

General
Output Component Types 1
Input Component Types 1
Parameters

Location 1
Mat. Conformity
Activity Status 2
Activity Result 3

Component Type	Functional Status	Physical Status	+
No Material Conformity records found			

Previously declared on 'Fuctional/Physical Satus' section of the 'Input Component Types' (!)

Save
Cancel

✎ [368] Blank Outer Barrel FPC Electrical Test
Electrical test of Blank OB FPC

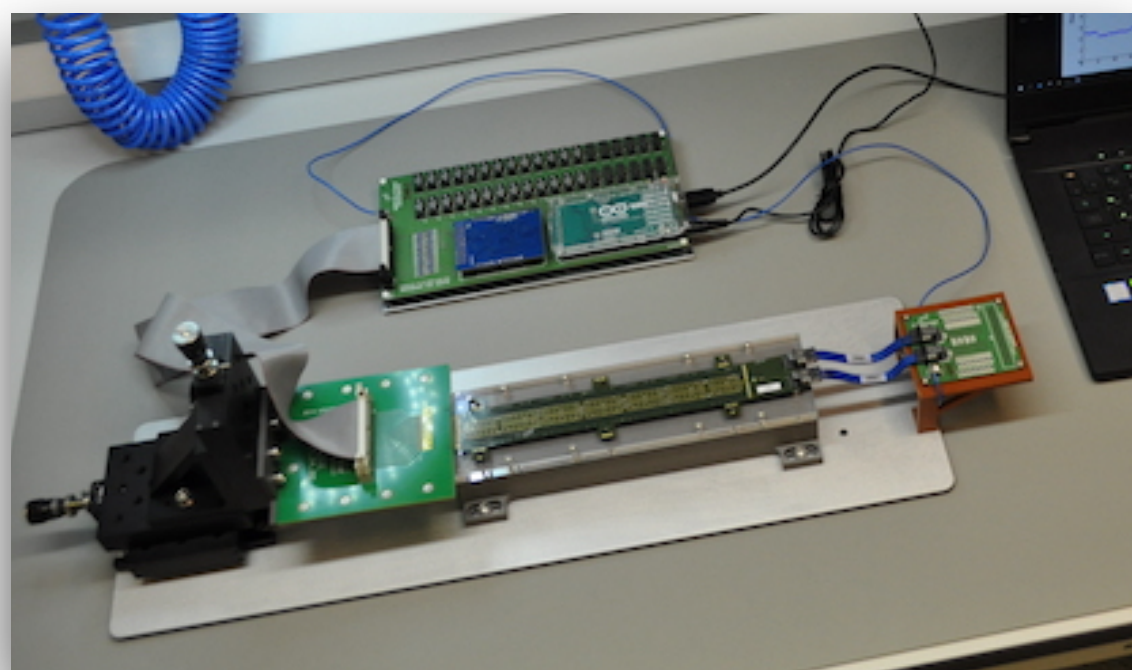
Component Type			
Component Type	Direction	Amount	Unit
[729] Blank Outer Barrel FPC	Output	1	[361] pc
[730] Blank Outer Barrel FPC	Input	1	[361] pc

Parameters	
Parameter	Unit
No Parameter records found	

Location	
Name	
[287] - [INS_241] Joint Institute for Nuclear Research (JINR), Dubna	

Mat. Conformity		
Component Type	Functional Status	Physical Status

⚙️ 02.09.2021 17:14:47.00
👁️ 11.10.2021 15:06:40.99



Resources Projects Administration
 Summary Info Settings Resources
 Management Functions Activity Types Acti

Edit Existing Activity Type

General Output Component Types **1** Input Component Types **1** Parameters
 Location **1** Mat. Conformity Activity Status **2** Activity Result **3**

Activity Status

OPEN
 CLOSED

Previously declared on 'Settings → Activity Status'

Save Cancel

Component Type	Direction	Amount	Unit
[729] Blank Outer Barrel FPC	Output	1	[361] pc
[730] Blank Outer Barrel FPC	Input	1	[361] pc

Parameters

Parameter	Unit
No Parameter records found	

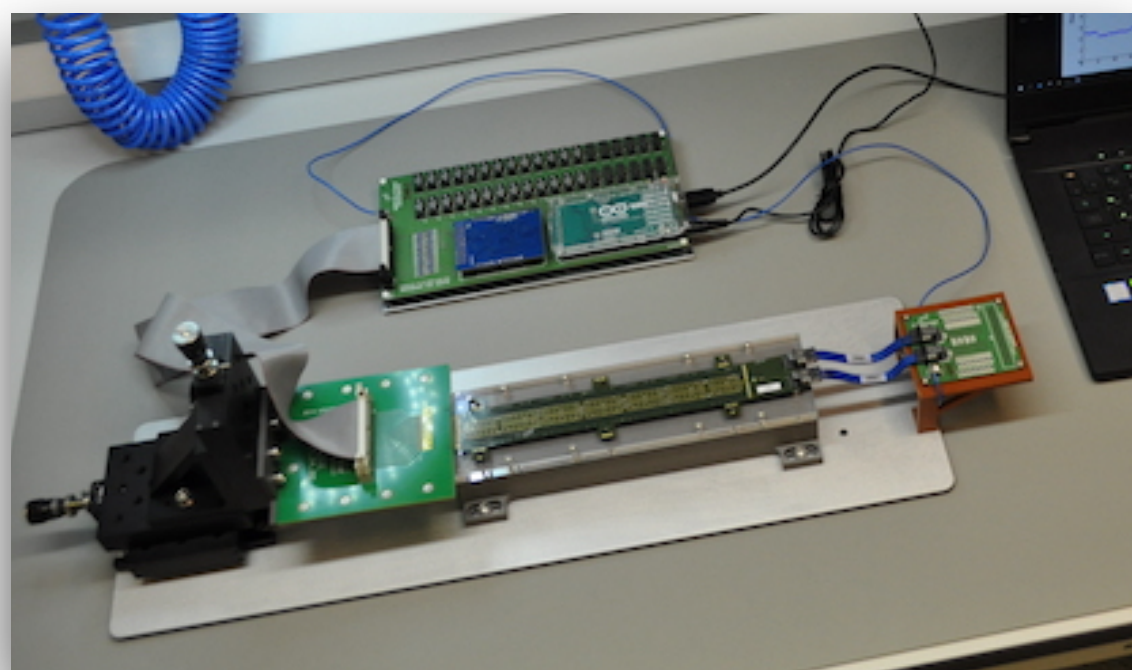
Location

Name
 [287] - [INS_241] Joint Institute for Nuclear Research (JINR), Dubna

Mat. Conformity

Component Type	Functional Status	Physical Status

02.09.2021 17:14:47.00 11.10.2021 15:06:40.99



Resources Projects Administration
 Summary Info Settings Resources
 Management Functions Activity Types Acti

Edit Existing Activity Type

General Output Component Types 1 Input Component Types 1 Parameters
 Location 1 Mat. Conformity Activity Status 2 **Activity Result 2**

Activity Result		
NOK		
Component Type	Functional Status	Physical Status
Blank Outer Barrel FPC	NOK	[EMPTY]
754		
OK		
Component Type	Functional Status	Physical Status
Blank Outer Barrel FPC	OK	[EMPTY]
753		

Previously declared on 'Fuctional/Physical Status' section of the 'Output Component Types' (!)

Save Cancel

Location
 Name
 [287] - [INS_241] Joint Institute for Nuclear Research (JINR), Dubna
 Mat. Conformity
 Component Type Functional Status Physical Status
 11.10.2021 15:15:04.69

02.09.2021 17:14:47.00

Activity 'OBFPC Electrical Test AL003479'

Activities: MPD-ITS

Displaying only selected Activity record Show All

Total Filtered Records: 1

Activity Name	Activity Type	Start Date	End Date	Location	Activity Status	Activity Result
[430] OBFPC ElecticTest AL003479	[458] Outer Barrel FPC Electrical Test	09.09.2021	09.09.2021	[293] JINR, Dubna	[242] CLOSED	[586] OK

Output Components

Component Type	Component ID	Functional Status	Physical Status
[308] Outer Barrel FPC	[1847] - R:[779] AL003479	[815] OK	[816] OK

Input Components

Component Type	Component ID	Functional Status	Physical Status
[308] Outer Barrel FPC	[1847] - R:[778] AL003479	[817] [EMPTY]	[816] OK

Parameters

No Records

Attachments

Category	File	Path
[665] - [225] GeneralInformation	FPC_GSBI1_A_03479.zip	\\eos-gw02.jinr.ru\eos-mpdits\Attachments\Dev\Act\400-499\430\FPC_GSBI1_A_03479.zip
[666] - [225] GeneralInformation	FPC_GSBI1_A_03479_summary.pdf	\\eos-gw02.jinr.ru\eos-mpdits\Attachments\Dev\Act\400-499\430\FPC_GSBI1_A_03479_summary.pdf

Uri

No Records

Members

Name
[209] - PIP: [381] Sheremetiev Aleksei Dmitrievich

Resources **Projects** Administration
Summary Info Settings Resources Organization Planning **Construction Data** Accounting Reports
Activities **Components** Raw Materials

JINR

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Components: MPD-ITS - Outer Barrel FPC

Displaying only selected Component Id [Show All](#)

Total Filtered Records: 1

Component ID	OK	Component Type	Supplier Component ID	Description	Lot ID	Package ID	Physical Status	Functional Status		
[1365] AL002113	OK	[308] Outer Barrel FPC	GS Swiss	Outer Barrel FPC	GSA9P	18/08/2021	[816] OK	[815] OK		

Filter

Filter applied for component 'AL002113'

Detailed Composition

Activity History

Resources **Projects** Administration

Summary Info Settings Resources Organization Planning **Construction Data** Accounting Reports

Activities **Components** Raw Materials

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Components: MPD-ITS - Outer Barrel FPC

Displaying only selected Component Id Show All

Total Filtered Records: 1

Component ID	OK	Component Type	Supplier Component ID	Description	Lot ID	Package ID	Physical Status	Functional Status	
[1365] AL002113	OK	[308] Outer Barrel FPC	GS Swiss	Outer Barrel FPC	GSA9P	18/08/2021	[816] OK	[815] OK	➔

Parents

Component Type	Component ID	Position in this Component	Description
[310] Outer Barrel FPC Box	[1370] - [1219] BXF002	1	Outer Barrel FPC Box

Children

Component Type	Component ID	Position	Description
[306] Blank Outer Barrel FPC	[1352] - [1209] A002113	1	Blank Outer Barrel FPC
[277] Cross Cable Set	[1364] - [1210] CC0907	2	

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Resources **Projects** Administration
Summary Info Settings Resources Organization Planning **Construction Data** Accounting Reports

Activities Components Raw Materials

Activities: MPD-ITS History: AL002113 [1365]

Displaying only Activities History for selected component Show All

Total Filtered Records: 3

Activity Name	Activity Type	Start Date	End Date	Location	Activity Status	Activity Result		
[408] OBFPC ElecticTest AL002113	[458] Outer Barrel FPC Electrical Test	02.09.2021	02.09.2021	[293] JINR, Dubna	[242] CLOSED	[586] OK		▼
[382] OBFPC ElecticTest AL002113	[458] Outer Barrel FPC Electrical Test	20.08.2021	20.08.2021	[293] JINR, Dubna	[242] CLOSED	[586] OK	2	▼
[362] BLOBFPCL CrossCableSolder A002113	[457] Outer Barrel FPC Cross Cable Soldering	19.08.2021	19.08.2021	[291] JINR, Dubna	[242] CLOSED	[583] OK		▼

+
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Edit
🗑️
Remove
🔍
Filter
📄
Export

Selecting the Component Activity History

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Resources **Projects** Administration

JINR
Summary Info Settings Resources Organization Planning **Construction Data** Accounting Reports

Activities Components Raw Materials

Activities: MPD-ITS History: AL002113 [1365]

Displaying only Activities History for selected component Show All

Total Filtered Records: 3

Activity Name	Activity Type	Start Date	End Date	Location	Activity Status	Activity Result		
[408] OBFPC ElecticTest AL002113	[458] Outer Barrel FPC Electrical Test	02.09.2021	02.09.2021	[293] JINR, Dubna	[242] CLOSED	[586] OK		
[382] OBFPC ElecticTest AL002113	[458] Outer Barrel FPC Electrical Test	20.08.2021	20.08.2021	[293] JINR, Dubna	[242] CLOSED	[586] OK	2	

Output Components

Component Type	Component ID	Functional Status	Physical Status
[308] Outer Barrel FPC	[1365] - R:[686] AL002113	[815] OK	[816] OK

Input Components

Component Type	Component ID	Functional Status	Physical Status
[308] Outer Barrel FPC	[1365] - R:[685] AL002113	[817] [EMPTY]	[816] OK

Parameters

No Records

Attachments

Category	File	Path
[583] - [225] GeneralInformation	FPC_BT01.07.10.19_A_03475_data.txt	\\eos-gw02.jinr.ru/eos-mpdits/Attachments/Dev/Act/300-399\382\FPC_BT01.07.10.19_A_03475_data.txt
[584] - [225] GeneralInformation	FPC_BT01.07.10.19_A_03475_summary.txt	\\eos-gw02.jinr.ru/eos-mpdits/Attachments/Dev/Act/300-399\382\FPC_BT01.07.10.19_A_03475_summary.txt



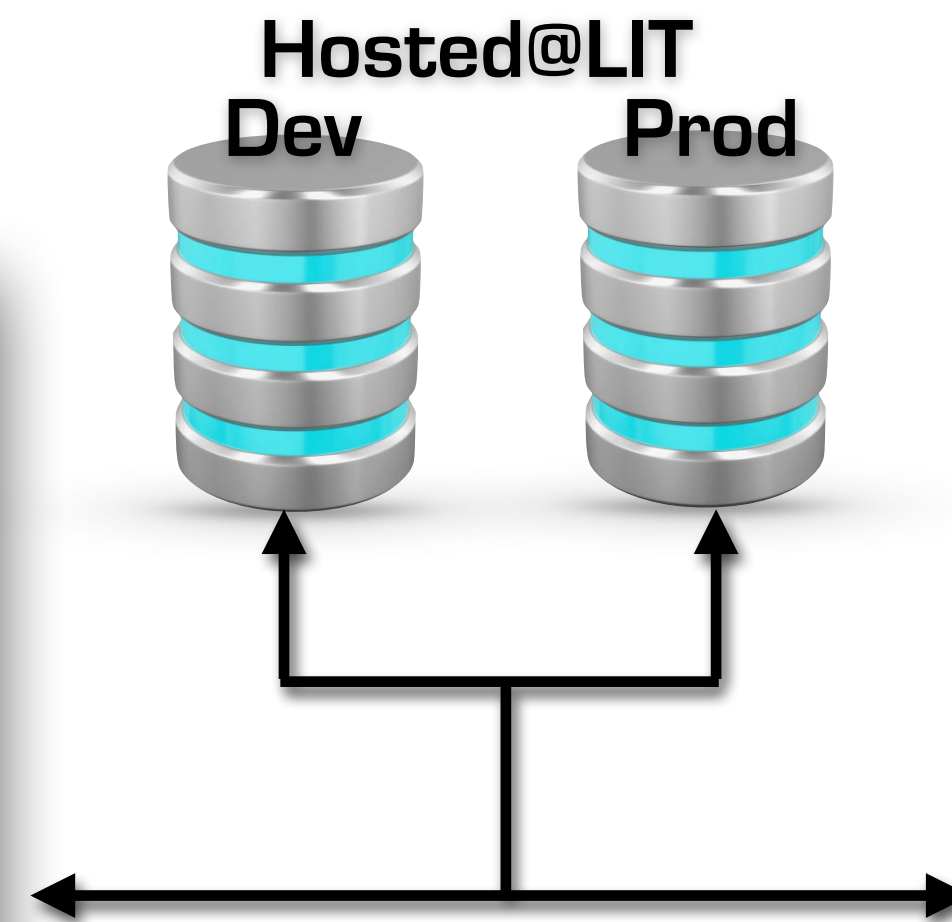
WebApp

Resources Projects Administration
 Summary Info Settings Resources Organization Planning Construction Data Accounting Reports
 Activities Components Raw Materials

Activities: MPD-ITS

Total Records: 60

Activity Name	Activity Type	Start Date	End Date	Location	Activity Status	Activity Result	
[430] OBFPC ElectricTest AL003479	[458] Outer Barrel FPC Electrical Test	09.09.2021	09.09.2021	[293] JINR, Dubna	[242] CLOSED	[586] OK	2
[429] BLOBFPC CrossCableSolder A003479	[457] Outer Barrel FPC Cross Cable Soldering	09.09.2021	09.09.2021	[291] JINR, Dubna	[242] CLOSED	[583] OK	
[428] CROSSCBL AttachLotInfo CX011	[377] Cross Cable Lot Attach Information	09.09.2021	09.09.2021	[290] JINR, Dubna	[241] OPEN		
[427] BLOBFPC ElectricalTest A003479	[368] Blank Outer Barrel FPC Electrical Test	09.09.2021	09.09.2021	[287] JINR, Dubna	[242] CLOSED	[572] OK	2
[426] BLOBFPC ElectricalTest A003479	[368] Blank Outer Barrel FPC Electrical Test	09.09.2021	09.09.2021	[287] JINR, Dubna	[242] CLOSED	[572] OK	
[425] BLOBFPC ElectricalTest A003479	[368] Blank Outer Barrel FPC Electrical Test	09.09.2021	09.09.2021	[287] JINR, Dubna	[242] CLOSED	[572] OK	1
[424] BLOBFPC Metrology A003479	[371] Blank Outer Barrel FPC Metrology	09.09.2021	09.09.2021	[285] JINR, Dubna	[242] CLOSED	[569] OK	
[423] BLOBFPC Metrology A003479	[371] Blank Outer Barrel FPC Metrology	09.09.2021	09.09.2021	[285] JINR, Dubna	[242] CLOSED	[569] OK	
[422] BLOBFPC VisInspect A003479	[373] Blank Outer Barrel FPC Visual Inspection	09.09.2021	09.09.2021	[286] JINR, Dubna	[242] CLOSED	[595] OK	
[421] BLOBFPC Metrology A003479	[371] Blank Outer Barrel FPC Metrology	09.09.2021	09.09.2021	[285] JINR, Dubna	[242] CLOSED	[569] OK	
[410] CROSSCBL AttachLotInfo CX013	[377] Cross Cable Lot Attach Information	03.09.2021	03.09.2021	[290] JINR, Dubna	[241] OPEN		
[409] CROSSCBL AttachLotInfo CX015	[377] Cross Cable Lot Attach Information	03.09.2021	03.09.2021	[290] JINR, Dubna	[241] OPEN		
[408] OBFPC ElectricTest AL002113	[458] Outer Barrel FPC Electrical Test	02.09.2021	02.09.2021	[293] JINR, Dubna	[242] CLOSED	[586] OK	
[407] CROSSCBL AttachLotInfo CX001	[377] Cross Cable Lot Attach Information	02.09.2021	02.09.2021	[290] JINR, Dubna	[241] OPEN		1
[406] BLOBFPC CrossCableSolder A003122	[457] Outer Barrel FPC Cross Cable Soldering	02.09.2021	02.09.2021	[291] JINR, Dubna	[242] CLOSED	[583] OK	
[405] BLOBFPC CrossCableSolder A003546	[457] Outer Barrel FPC Cross Cable Soldering	31.08.2021	31.08.2021	[291] JINR, Dubna	[242] CLOSED	[583] OK	
[404] BLOBFPC CrossCableSolder A003545	[457] Outer Barrel FPC Cross Cable Soldering	31.08.2021	31.08.2021	[291] JINR, Dubna	[242] CLOSED	[584] NOK	
[403] BLOBFPC ElectricalTest A003520	[368] Blank Outer Barrel FPC Electrical Test	31.08.2021	31.08.2021	[287] JINR, Dubna	[242] CLOSED	[573] NOK	
[402] BLOBFPC Metrology A003545	[371] Blank Outer Barrel FPC Metrology	31.08.2021	31.08.2021	[285] JINR, Dubna	[242] CLOSED	[570] NOK	
[401] OBFPC ElectricTest AL002112	[458] Outer Barrel FPC Electrical Test	29.08.2021	29.08.2021	[293] JINR, Dubna	[242] CLOSED	[586] OK	5



API functions

CmisWebAPI

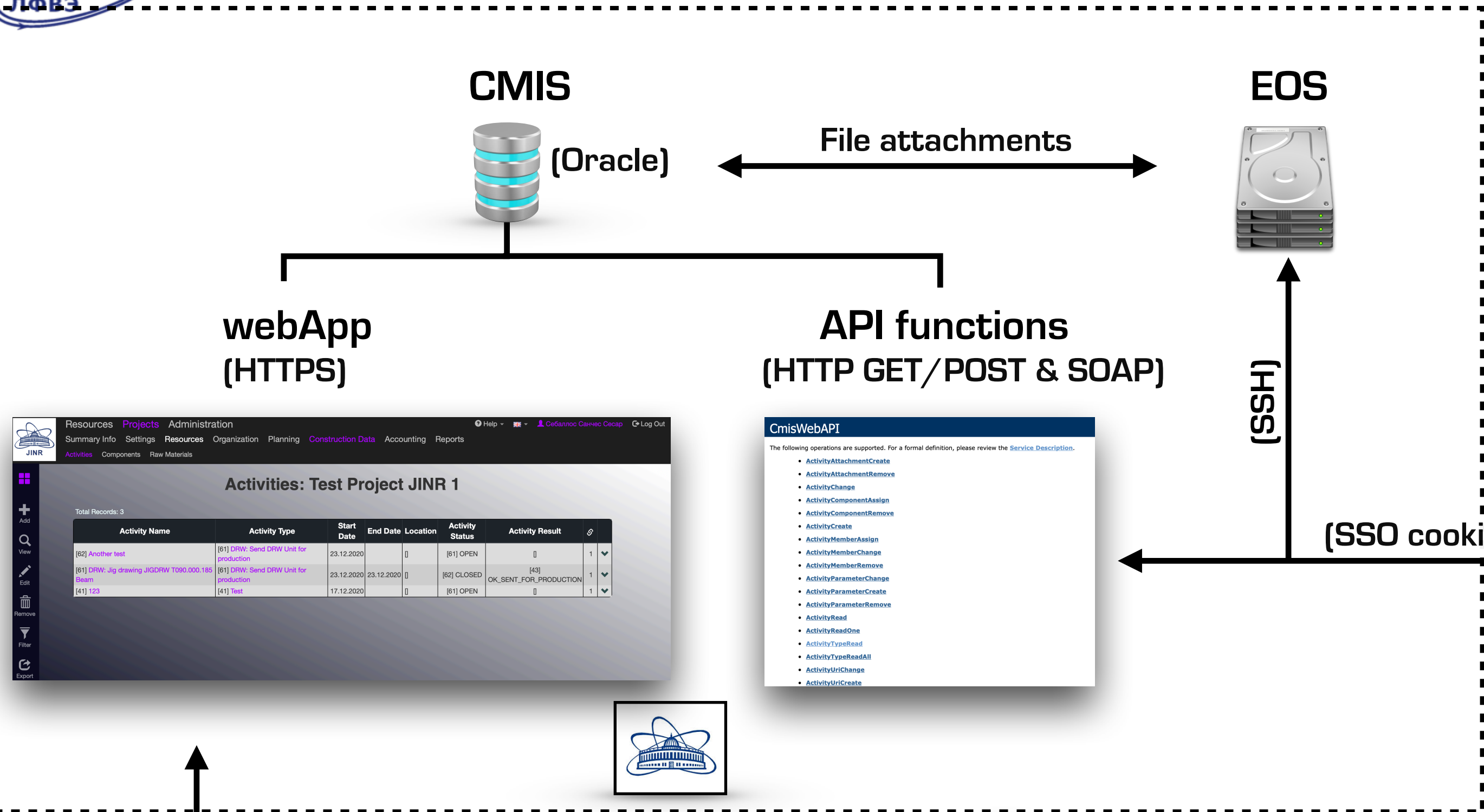
The following operations are supported. For a formal definition, please review the [Service Description](#).

- [ActivityAttachmentCreate](#)
- [ActivityAttachmentRemove](#)
- [ActivityChange](#)
- [ActivityComponentAssign](#)
- [ActivityComponentRemove](#)
- [ActivityCreate](#)
- [ActivityMemberAssign](#)
- [ActivityMemberChange](#)
- [ActivityMemberRemove](#)
- [ActivityParameterChange](#)
- [ActivityParameterCreate](#)
- [ActivityParameterRemove](#)
- [ActivityRead](#)
- [ActivityReadOne](#)
- [ActivityTypeRead](#)
- [ActivityTypeReadAll](#)
- [ActivityUriChange](#)
- [ActivityUriCreate](#)
- [ActivityUriRemove](#)
- [AttachmentCategoryRead](#)
- [ComponentActivityHistoryRead](#)
- [ComponentChange](#)
- [ComponentChildrenRead](#)
- [ComponentCompositionCreate](#)
- [ComponentCompositionPositionChange](#)
- [ComponentCompositionRemove](#)
- [ComponentCreate](#)

Web interface to be used by registered users for reading/writing data from/to the DB.

Activity and Component Types definitions are always done via WebApp

API function collection meant to be used by the construction and test hardware to read/write data from/to the DB.



Activities: Test Project JINR 1

Activity Name	Activity Type	Start Date	End Date	Location	Activity Status	Activity Result
[82] Another test	[81] DRW: Send DRW Unit for production	23.12.2020			[81] OPEN	
[81] DRW: Jig drawing JIGDRW T090.000.185 Beam	[81] DRW: Send DRW Unit for production	23.12.2020	23.12.2020		[82] CLOSED	[43] OK_SENT_FOR_PRODUCTION
[41] 103	[41] Test	17.12.2020			[81] OPEN	

- CmisWebAPI
- ActivityAttachmentCreate
 - ActivityAttachmentRemove
 - ActivityChange
 - ActivityComponentAssign
 - ActivityComponentRemove
 - ActivityCreate
 - ActivityMemberAssign
 - ActivityMemberChange
 - ActivityMemberRemove
 - ActivityParameterChange
 - ActivityParameterCreate
 - ActivityParameterRemove
 - ActivityRead
 - ActivityReadOne
 - ActivityTypeRead
 - ActivityTypeReadAll
 - ActivityUriChange
 - ActivityUriCreate



CERN SSO:

- » Web access.
- » Registered JINR-SSO users.
- » Role-based access rights.

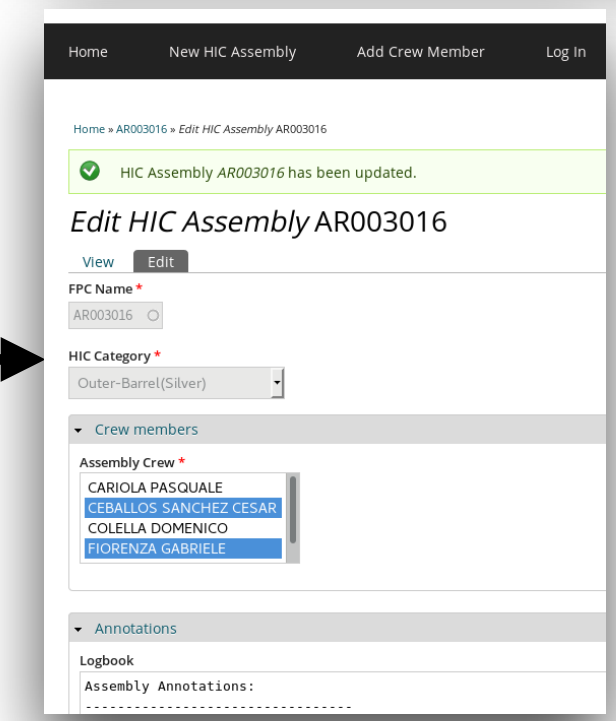
Custom Assembly & Testing programs

Direct HW interface to DB

[Kerberos credentials automatically renewed]

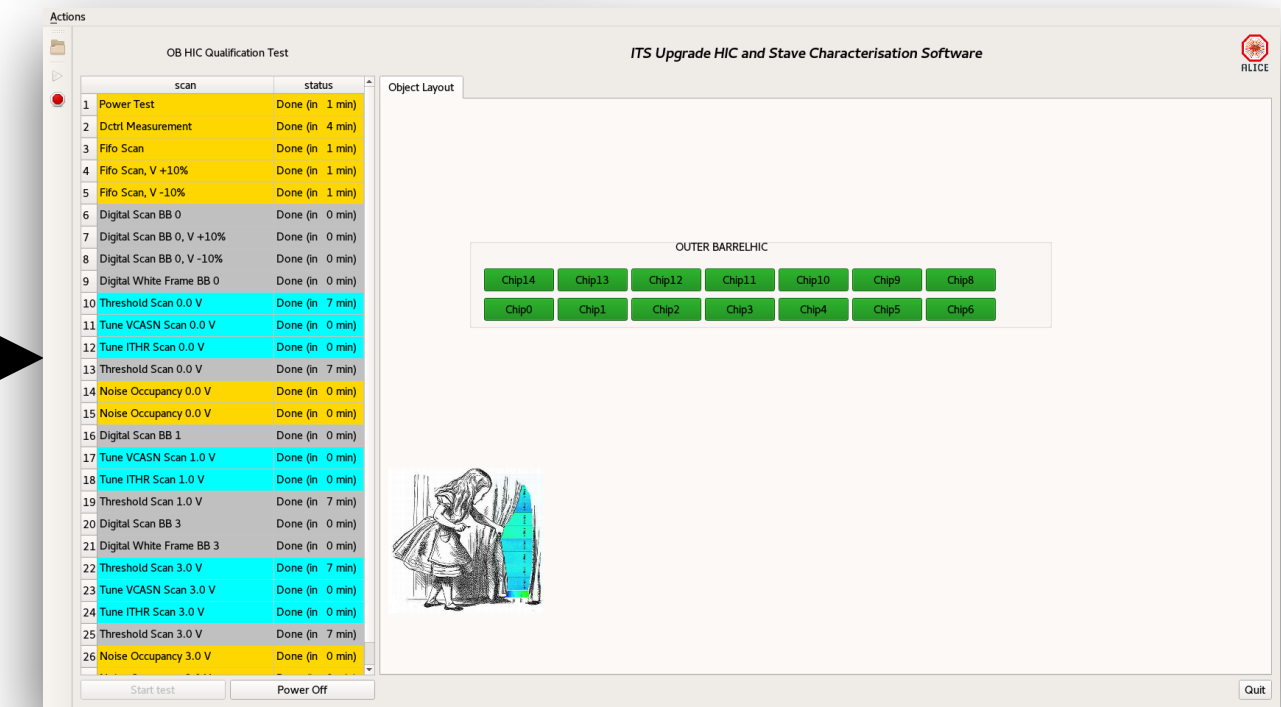
```

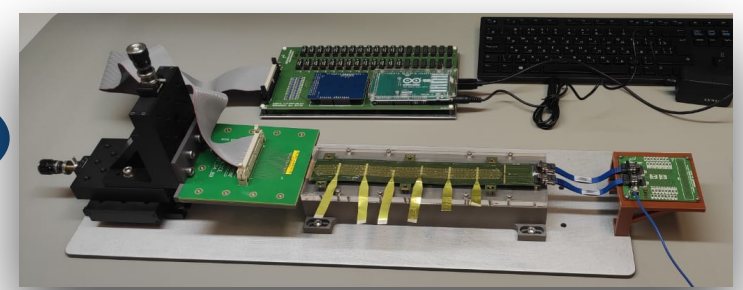
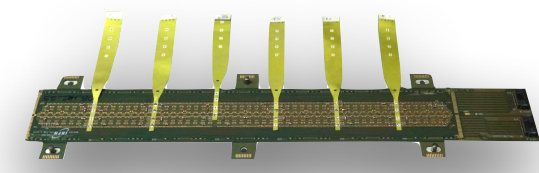
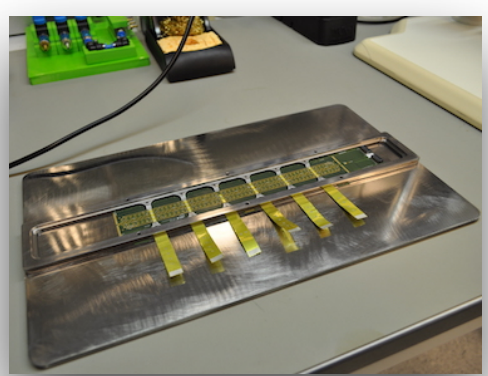
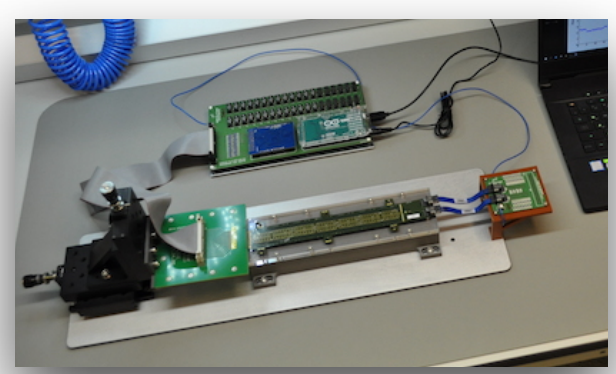
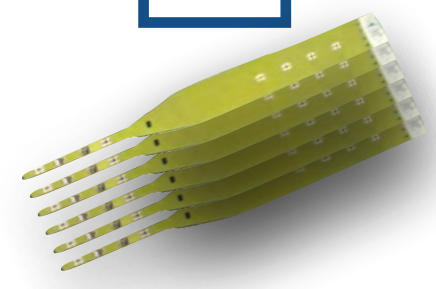
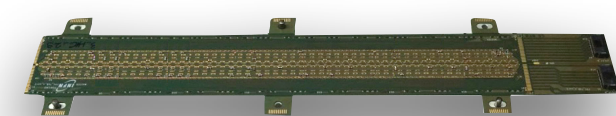
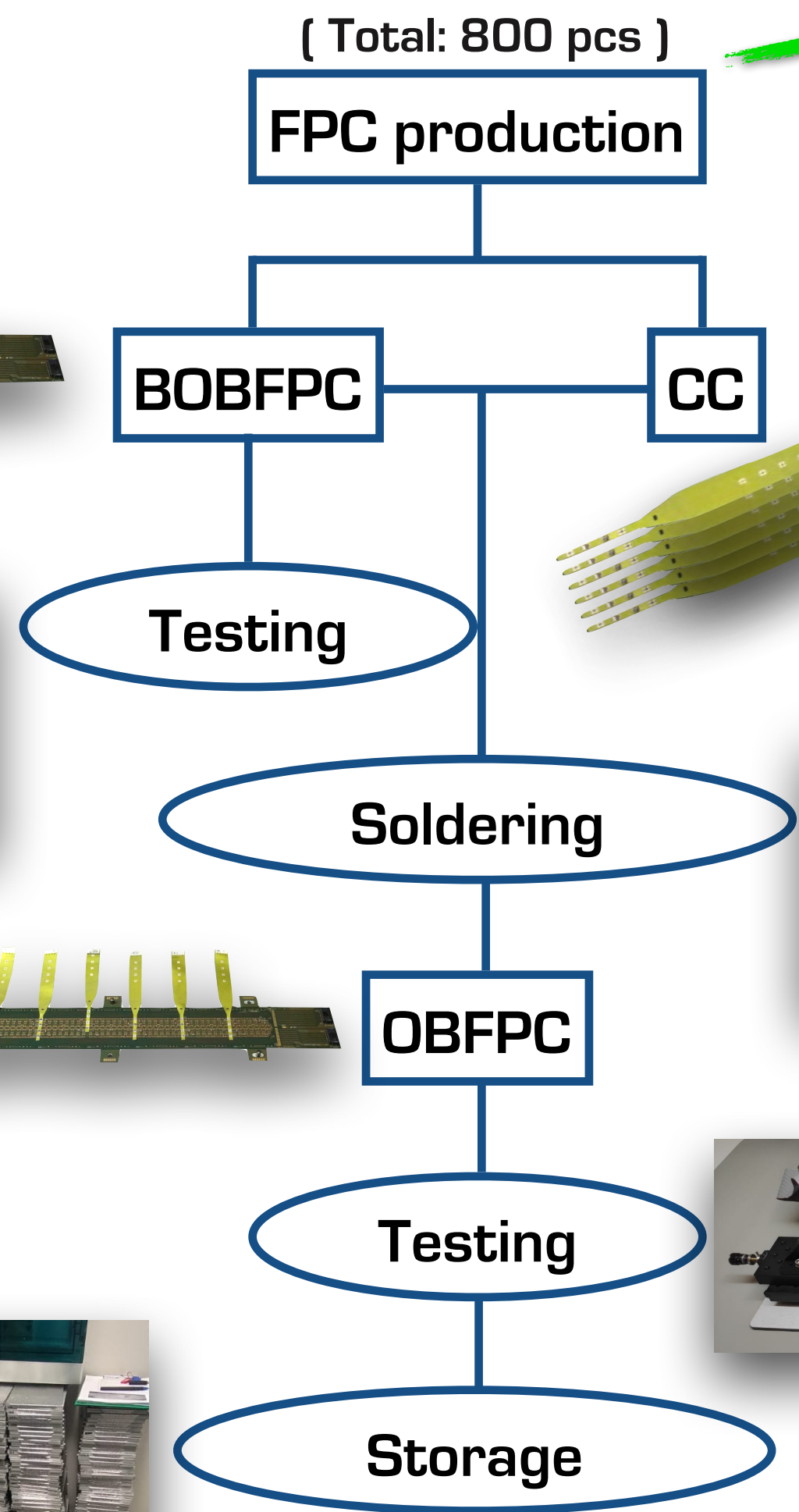
File Edit View Search Terminal Help
-> IBS is requesting the tray ID together with status
---
--> PLEASE SCAN BARCODE
---
WARNING: unrecognized ID scanned: "TR05181", try again!
<- tray ID is 5388A148
Please confirm that this tray is for HIC assembly of type: "085" by typing "085": 085
1) 2) 3) 4) 5) 6) 7) 8)
A) | NK | NK | OK | OK | NK | OK | OK | OK |
B) | OK | NK | OK | OK | NK | OK | OK | NK |
C) | NK | OK | NK | NK | NK | NK | NK | OK |
---
Please confirm chip content by typing "OK" or anything else to cancel: OK
OK
--> TRID5388A148: A1: NK, A2: NK, A3: OK, A4: OK, A5: NK, A6: OK, A7: OK, A8: OK, B1: OK, B2: NK, B3: OK, B4: OK, B5: NK, B6: OK,
B7: OK, B8: NK, C1: OK, C2: NK, C3: OK, C4: NK, C5: NK, C6: NK, C7: NK, C8: OK
--> Removed command <TRID> from command list
  
```



JINR SSO:

- » Registered service accounts.
- » Kerberos credentials.
- » Access cookies acquired through 'get-sso-cookie.py'.





CmisWebAPI

The following operations are supported. For a formal definition, please review

- ActivityAttachmentCreate
- ActivityAttachmentRemove
- ActivityChange
- ActivityComponentAssign
- ActivityComponentRemove
- ActivityCreate
- ActivityMemberAssign
- ActivityMemberChange
- ActivityMemberRemove
- ActivityParameterChange
- ActivityParameterCreate
- ActivityParameterRemove
- ActivityRead
- ActivityReadOne
- ActivityTypeRead
- ActivityTypeReadAll
- ActivityUriChange
- ActivityUriCreate
- ActivityUriRemove
- AttachmentChildsRead
- ComponentActivityHistoryRead
- ComponentChange
- ComponentChildsRead
- ComponentCompositionCreate
- ComponentCompositionPositionChange
- ComponentCompositionRemove
- ComponentCreate

MPD-ITS FPC PRODUCTION

File Blank OB FPC LOT Blank OB FPC Cross Cables OB FPC OB FPC BOXs Help

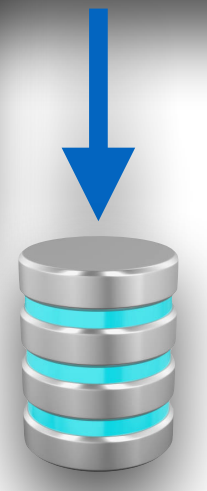
MPD ITS - Manage FPC component (Courtesy of CERN-ALICE) logged user : Ceballos Sanchez Cesar

Preset: Project = MPD-ITS Location = JINR, Dubna

Install EOS ! Renew Kerberos !

```

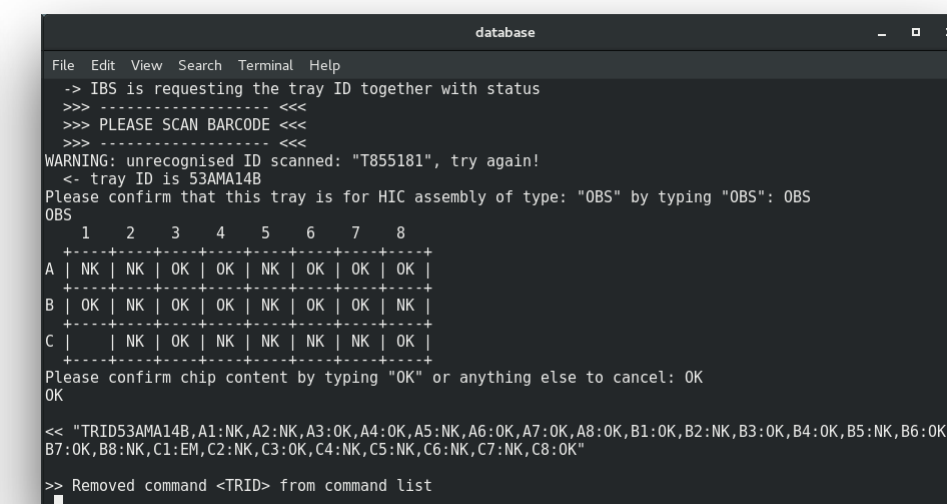
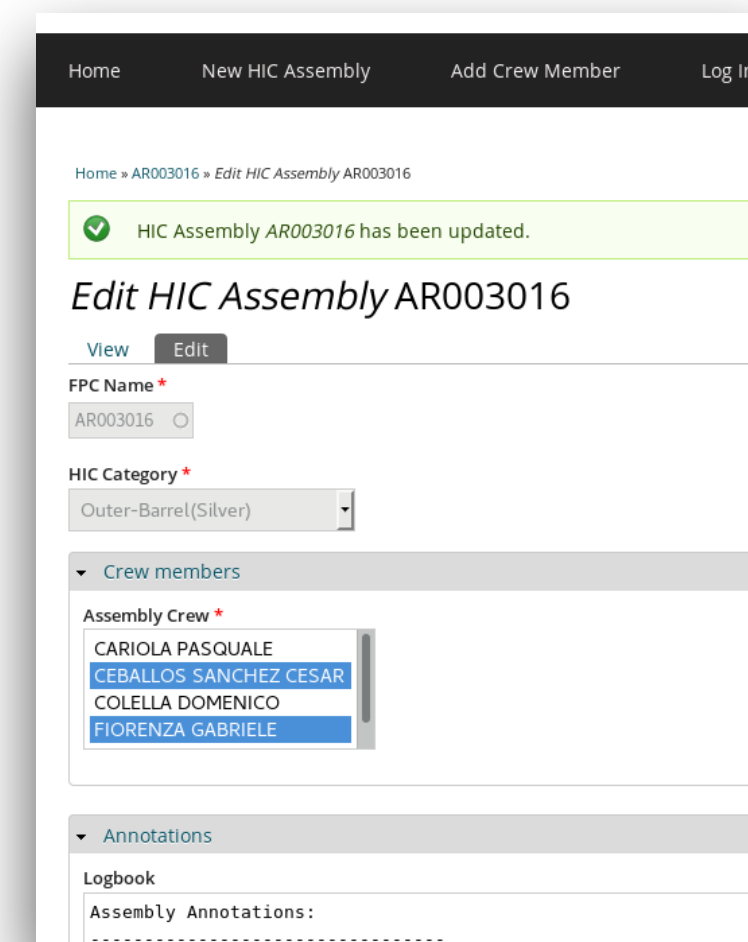
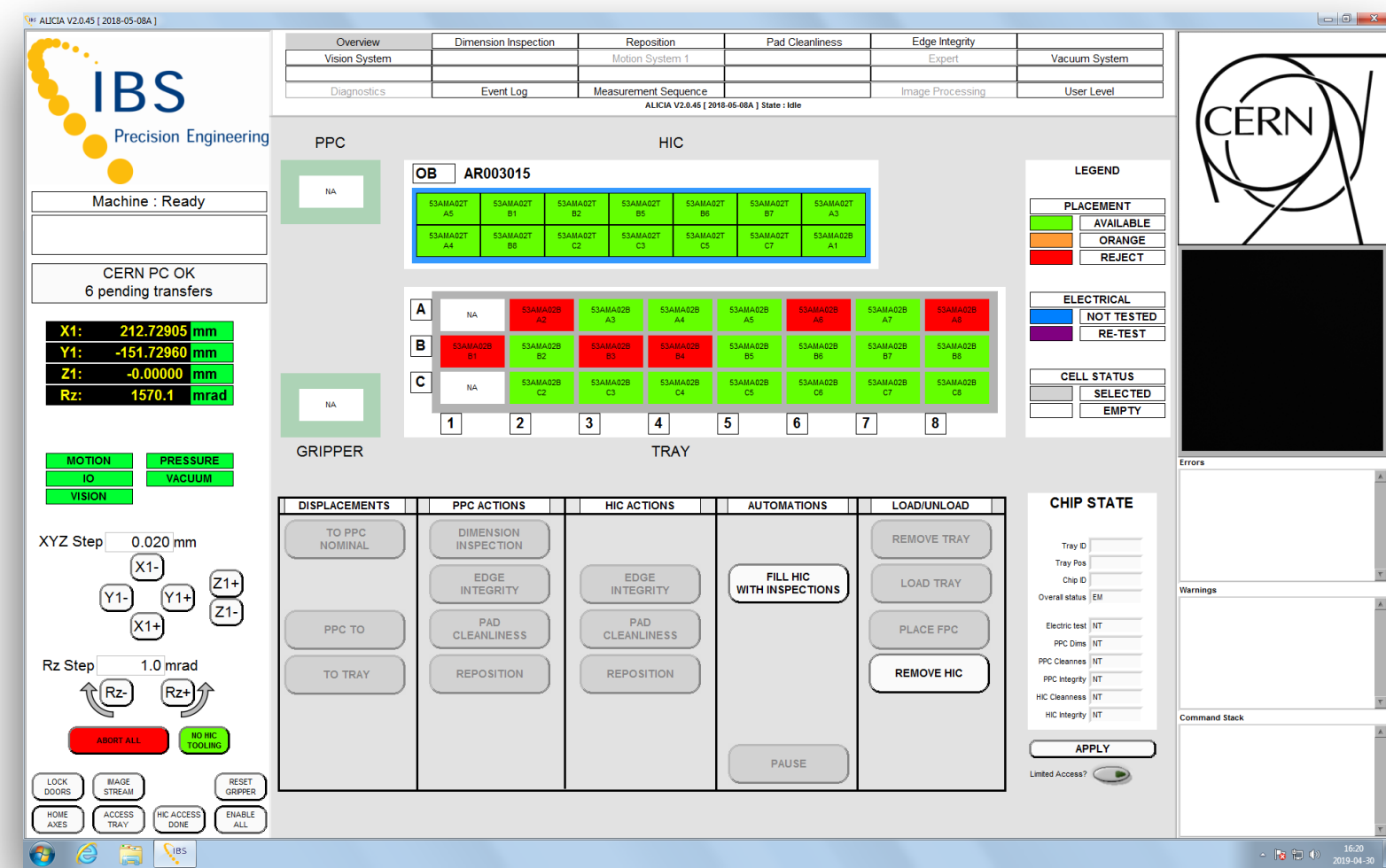
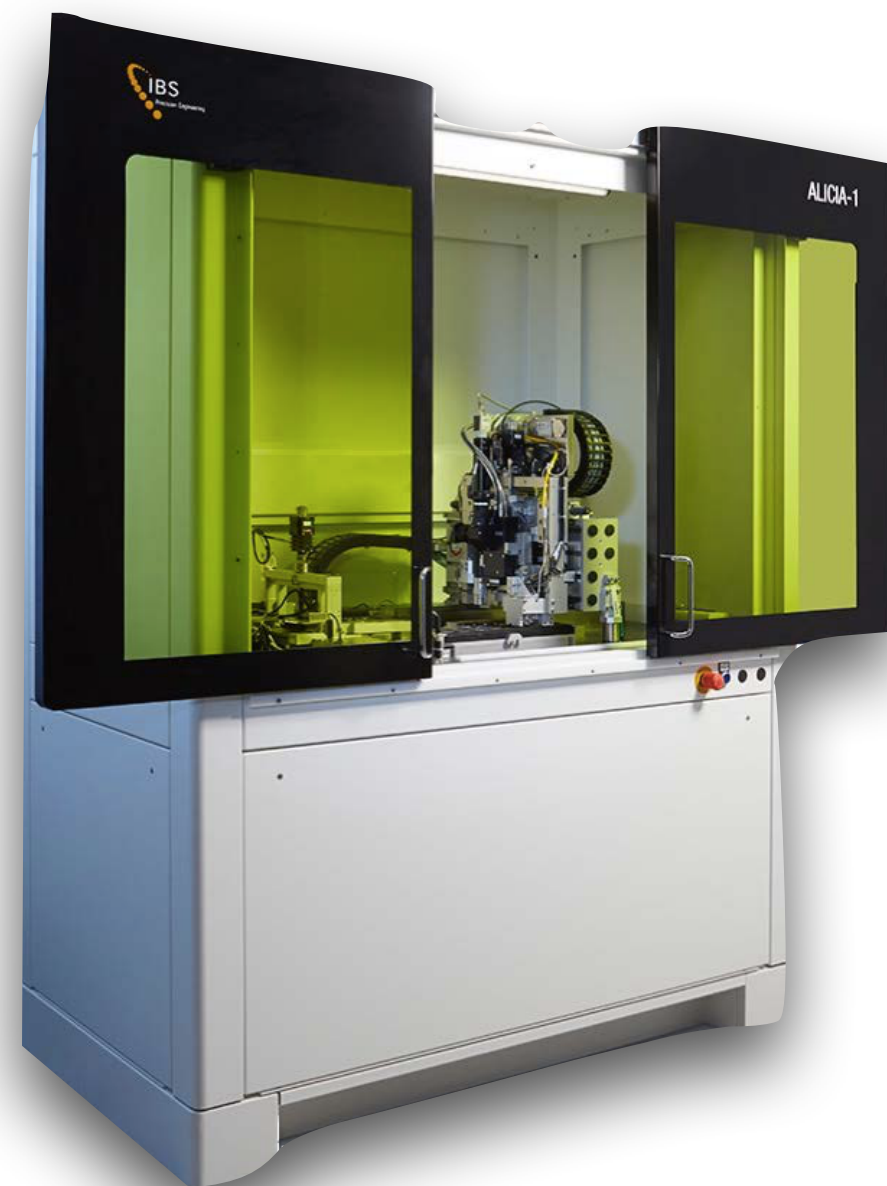
2021-09-06 09:33:41,418 - DEBUG : Login validate control type is 0
2021-09-06 09:33:41,418 - DEBUG : Login validate for the user:
2021-09-06 09:33:41,418 - DEBUG : Restore the last config...
2021-09-06 09:33:41,419 - DEBUG : Get the list of users defined...
2021-09-06 09:33:41,419 - DEBUG : 3users defined!
2021-09-06 09:33:41,980 - DEBUG : DB User selection User -22 Fake User Selected 341 Ceballos Sanchez Cesar
2021-09-06 09:33:42,027 - DEBUG : Projects list contains 15 items !
2021-09-06 09:33:42,036 - DEBUG : From project MPD-ITS get the Id 181 !
2021-09-06 09:33:42,042 - DEBUG : Member list contains 5 items !
2021-09-06 09:33:42,043 - INFO : Enable GUI at level 9. Logged user : 'Ceballos Sanchez Cesar'
  
```



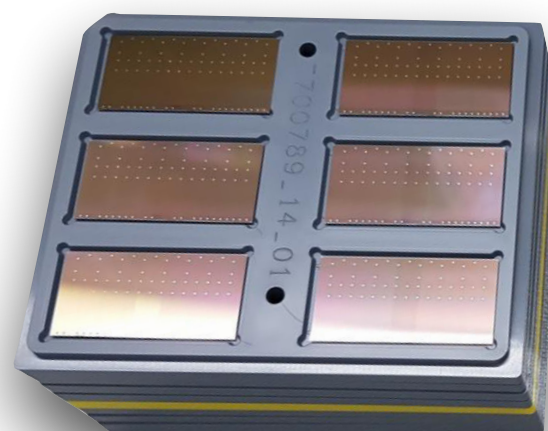
Activities: MPD-ITS

Total Records: 60

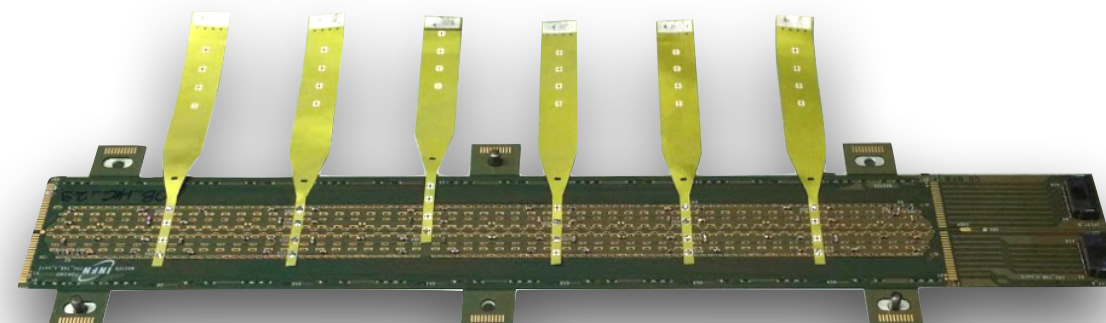
Activity Name	Activity Type	Start Date	End Date	Location	Activity Status	Activity Result	
[430] OBFFPC ElectricTest AL003479	[458] Outer Barrel FPC Electrical Test	09.09.2021	09.09.2021	[293] JINR, Dubna	[242] CLOSED	[586] OK	2
[429] BLOBFPC CrossCableSolder A003479	[457] Outer Barrel FPC Cross Cable Soldering	09.09.2021	09.09.2021	[291] JINR, Dubna	[242] CLOSED	[583] OK	
[428] CROSSCBL AttachLotInfo CX011	[377] Cross Cable Lot Attach Information	09.09.2021	09.09.2021	[290] JINR, Dubna	[241] OPEN	[]	
[427] BLOBFPC ElectricalTest A003479	[368] Blank Outer Barrel FPC Electrical Test	09.09.2021	09.09.2021	[287] JINR, Dubna	[242] CLOSED	[572] OK	2
[426] BLOBFPC ElectricalTest A003479	[368] Blank Outer Barrel FPC Electrical Test	09.09.2021	09.09.2021	[287] JINR, Dubna	[242] CLOSED	[572] OK	
[425] BLOBFPC ElectricalTest A003479	[368] Blank Outer Barrel FPC Electrical Test	09.09.2021	09.09.2021	[287] JINR, Dubna	[242] CLOSED	[572] OK	1
[424] BLOBFPC Metrology A003479	[371] Blank Outer Barrel FPC Metrology	09.09.2021	09.09.2021	[285] JINR, Dubna	[242] CLOSED	[569] OK	
[423] BLOBFPC Metrology A003479	[371] Blank Outer Barrel FPC Metrology	09.09.2021	09.09.2021	[285] JINR, Dubna	[242] CLOSED	[569] OK	
[422] BLOBFPC Visinspect A003479	[373] Blank Outer Barrel FPC Visual Inspection	09.09.2021	09.09.2021	[286] JINR, Dubna	[242] CLOSED	[595] OK	
[421] BLOBFPC Metrology A003479	[371] Blank Outer Barrel FPC Metrology	09.09.2021	09.09.2021	[285] JINR, Dubna	[242] CLOSED	[569] OK	
[410] CROSSCBL AttachLotInfo CX013	[377] Cross Cable Lot Attach Information	03.09.2021	03.09.2021	[290] JINR, Dubna	[241] OPEN	[]	
[409] CROSSCBL AttachLotInfo CX015	[377] Cross Cable Lot Attach Information	03.09.2021	03.09.2021	[290] JINR, Dubna	[241] OPEN	[]	
[408] OBFFPC ElectricTest AL002113	[458] Outer Barrel FPC Electrical Test	02.09.2021	02.09.2021	[293] JINR, Dubna	[242] CLOSED	[586] OK	
[407] CROSSCBL AttachLotInfo CX001	[377] Cross Cable Lot Attach Information	02.09.2021	02.09.2021	[290] JINR, Dubna	[241] OPEN	[]	1
[406] BLOBFPC CrossCableSolder A003122	[457] Outer Barrel FPC Cross Cable Soldering	02.09.2021	02.09.2021	[291] JINR, Dubna	[242] CLOSED	[583] OK	
[405] BLOBFPC CrossCableSolder A003546	[457] Outer Barrel FPC Cross Cable Soldering	31.08.2021	31.08.2021	[291] JINR, Dubna	[242] CLOSED	[583] OK	
[404] BLOBFPC CrossCableSolder A003545	[457] Outer Barrel FPC Cross Cable Soldering	31.08.2021	31.08.2021	[291] JINR, Dubna	[242] CLOSED	[584] NOK	
[403] BLOBFPC ElectricalTest A003520	[368] Blank Outer Barrel FPC Electrical Test	31.08.2021	31.08.2021	[287] JINR, Dubna	[242] CLOSED	[573] NOK	
[402] BLOBFPC Metrology A003545	[371] Blank Outer Barrel FPC Metrology	31.08.2021	31.08.2021	[285] JINR, Dubna	[242] CLOSED	[570] NOK	
[401] OBFFPC ElectricTest AL002112	[458] Outer Barrel FPC Electrical Test	29.08.2021	29.08.2021	[293] JINR, Dubna	[242] CLOSED	[586] OK	5



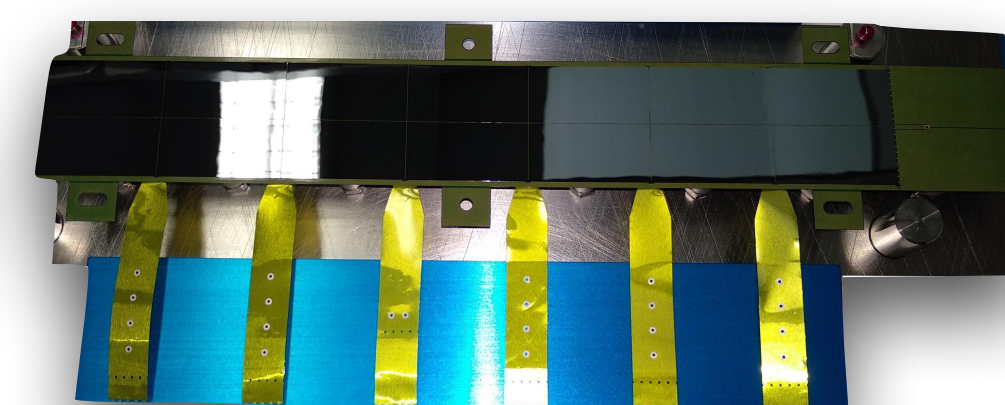
2 x 7 Chips



1 FPC



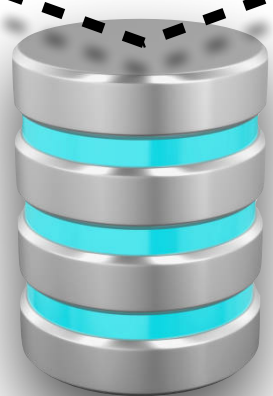
1 OBHIC



Parameters			
Name	Description	Value	Unit
Analog Current	Analog Current consumption of e.g. ALPIDEB	11.6233333333	mA
Analogue Scan 3V Broken Pixels		4	N/A
Analogue Scan 3V Dead Pixels		4274	N/A
Analogue Scan 3V Noisy Pixels		30	N/A
BackBias 3V PWELL/SUB Current		2.56843	mA
BackBias Avg Analog Current		16.5051851852	A
BackBias Avg Digital Current		57.1281481481	A
BackBias Avg PWELL/SUB Current		2.63092111111	A
BackBias Max Analog Current		115.66	mA
BackBias Max Digital Current		61.46	mA
BackBias Max PWELL/SUB Current		3.55672	mA

```

database
File Edit View Search Terminal Help
-> IBS is requesting the tray ID together with status
>>> ----- <<<
>>> PLEASE SCAN BARCODE <<<
>>> ----- <<<
WARNING: unrecognised ID scanned: "T855181", try again!
<- tray ID is 53AMA14B
Please confirm that this tray is for HIC assembly of type: "OBS" by typing "OBS": OBS
OBS
  1  2  3  4  5  6  7  8
+---+---+---+---+---+---+---+
A | NK | NK | OK | OK | NK | OK | OK |
+---+---+---+---+---+---+---+
B | OK | NK | OK | OK | NK | OK | OK |
+---+---+---+---+---+---+---+
C |   | NK | OK | NK | NK | NK | NK |
+---+---+---+---+---+---+---+
Please confirm chip content by typing "OK" or anything else to cancel: OK
OK
<< "TRID53AMA14B,A1:NK,A2:NK,A3:OK,A4:OK,A5:NK,A6:OK,A7:OK,A8:OK,B1:OK,B2:NK,B3:OK,B4:OK,B5:NK,B6:OK,
B7:OK,B8:NK,C1:EM,C2:NK,C3:OK,C4:NK,C5:NK,C6:NK,C7:NK,C8:OK"
>> Removed command <TRID> from command list
  
```



2. Chips are categorized on-the-fly as “SILVER” or “BRONZE” according to cuts applied to 47 parameters (Dead pixels, Fake Hit Rate, BackBias Max Voltage, ...).

3. The tray map shows “OK/NK” for each chip according to the selected category.

HIC Assembly Interface

View mode

Edit mode

It allows to:

- » Collect the assembly information.
- » Keep track of all assemblies on site at different stages.
- » Register the new HIC component and assembly activity into the project's DB and to send the assembly data to EOS (offline).

All data have been collected

Submit to the DB

New HIC Component

Component ID	Component Type	Supplier Component ID	Description	Lot ID	Package ID	Phys. Status	Func. Status
OBHIC-AR003017	Outer Barrel HIC Module	-	-	-	-	OK	OBHIC-BRONZE

Parents				Children			
Component Type	Component ID	Position in this Component	Description	Component Type	Component ID	Position	Description
None				ALPIDEB Chip	T847782W11R26	HA1	
				ALPIDEB Chip	T847782W11R40	HA2	
				ALPIDEB Chip	T847782W11R03	HA3	
				ALPIDEB Chip	T854192W11R14	HA4	
				ALPIDEB Chip	T854192W11R03	HA5	
				ALPIDEB Chip	T854192W11R08	HA6	
				ALPIDEB Chip	T847782W11R30	HA7	
				ALPIDEB Chip	T847782W11R36	HB1	
				ALPIDEB Chip	T854192W11R00	HB2	
				ALPIDEB Chip	T854186W19R45	HB3	
				ALPIDEB Chip	T854186W19R38	HB4	
				ALPIDEB Chip	T854186W19R27	HB5	
				ALPIDEB Chip	T854186W19R33	HB6	
				ALPIDEB Chip	T854186W19R19	HB7	
Outer Barrel FPC	AR003017	N/A	Outer Barrel FPC				

Real data from ALICE-ITS

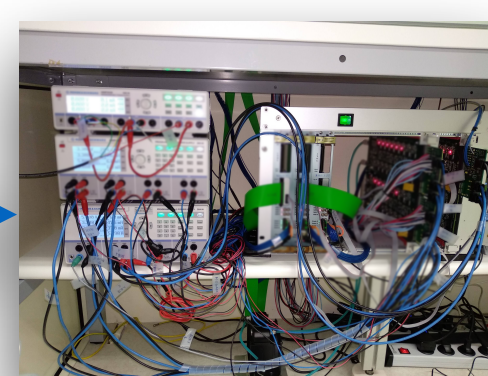
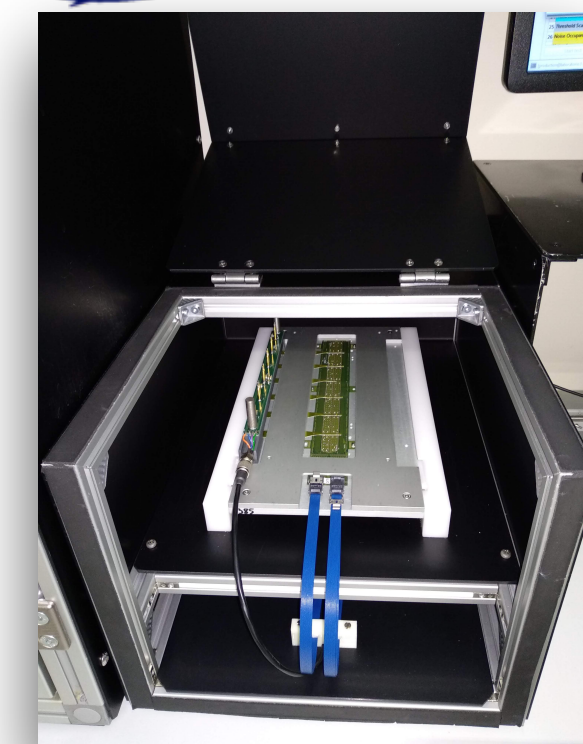
New HIC Assembly Activity

Assembly of OBHIC-AR003017	OB HIC Assembly	09.05.2019	10.05.2019	Sezione INFN, Bari	Closed	OBHIC BRONZE Assembled
Output Components						
Component Type	Component ID	Functional Status	Physical Status			
Outer Barrel HIC Module	OBHIC-AR003017	unknown	OK			
Input Components						
Component Type	Component ID	Functional Status	Physical Status			
ALPIDEB Chip	T854186W19R45	OK	OK			
ALPIDEB Chip	T854186W19R33	OK	OK			
ALPIDEB Chip	T847782W11R26	OK	OK			
ALPIDEB Chip	T847782W11R40	OK	OK			
ALPIDEB Chip	T854192W11R14	OK	OK			
ALPIDEB Chip	T847782W11R30	OK	OK			
ALPIDEB Chip	T854192W11R08	OK	OK			
ALPIDEB Chip	T847782W11R03	OK	OK			
ALPIDEB Chip	T854186W19R38	OK	OK			
ALPIDEB Chip	T854186W19R19	OK	OK			
ALPIDEB Chip	T847782W11R36	OK	OK			
ALPIDEB Chip	T854192W11R03	OK	OK			
ALPIDEB Chip	T854192W11R00	OK	OK			
ALPIDEB Chip	T854186W19R27	OK	OK			
Outer Barrel FPC	AR003017	OK	OK			
Parameters						
Name	Description	Value	Unit			
Chip Classification Version	The version of the classification used by the ALPIDE-mass-testing-software	45	N/A			
Attachments						
Attachment Type	File					
HIC Assembly Data	Results.html					
Uri						
URI	Description					
/eos/project/a/alice-its/hic/ALICIA-3/AR003017/chipclassinfo.tar.gz	path to chip classification info on EOS					
http://cern.ch/hicassembly/ALICIA-3/AR003017/chipclassinfo.tar.gz	link to chip classification info on EOS					
Members						
Name						
CEBALLOS SANCHEZ CESAR						
FIORENZA GABRIELE						

Assembly data on EOS

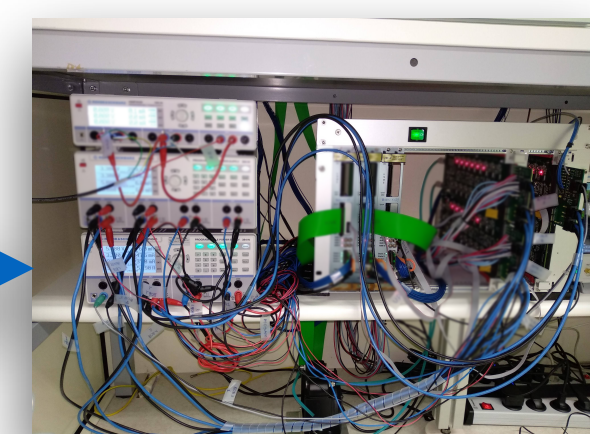
The screenshot shows the EOS file browser interface for the path: `__myprojects > alice-its > www > hic > ALICIA-3 > AR003017`. The file list includes:

- 1557469891
- pictures
- thumbnail
- css
- change_file_format_to_png
- media_thumbnail
- chipclassinfo
- AR003017.html



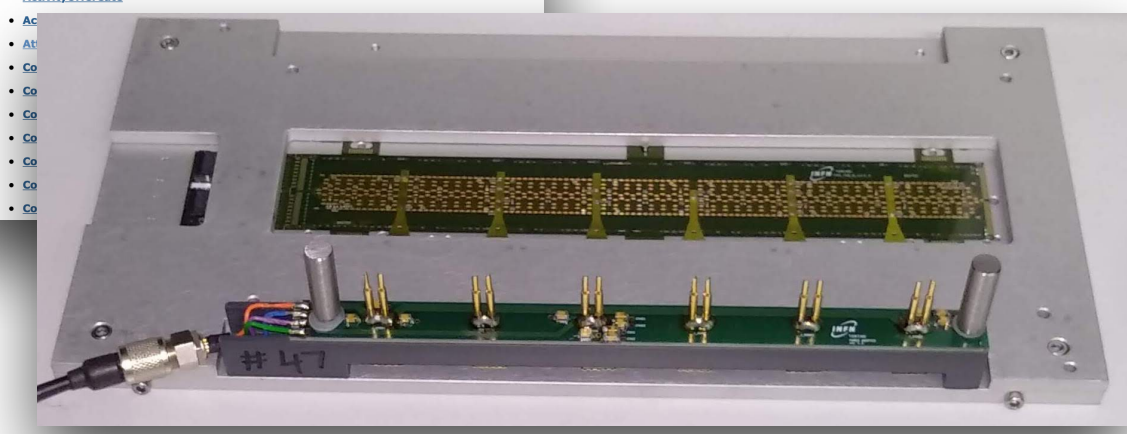
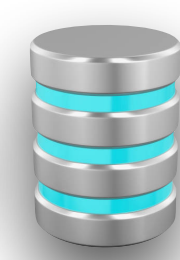
scan	status
1 Power Test	Done (in 1 min)
2 DcIrl Measurement	Done (in 4 min)
3 Fifo Scan	Done (in 1 min)
4 Fifo Scan, V +10%	Done (in 1 min)
5 Fifo Scan, V -10%	Done (in 1 min)
6 Digital Scan BB 0	Done (in 0 min)
7 Digital Scan BB 0, V +10%	Done (in 0 min)
8 Digital Scan BB 0, V -10%	Done (in 0 min)
9 Digital White Frame BB 0	Done (in 0 min)
10 Threshold Scan 0.0 V	Done (in 7 min)
11 Tune VCASN Scan 0.0 V	Done (in 0 min)
12 Tune ITHR Scan 0.0 V	Done (in 0 min)
13 Threshold Scan 0.0 V	Done (in 7 min)
14 Noise Occupancy 0.0 V	Done (in 0 min)
15 Noise Occupancy 0.0 V	Done (in 0 min)
16 Digital Scan BB 1	Done (in 0 min)
17 Tune VCASN Scan 1.0 V	Done (in 0 min)
18 Tune ITHR Scan 1.0 V	Done (in 0 min)
19 Threshold Scan 1.0 V	Done (in 7 min)
20 Digital Scan BB 3	Done (in 0 min)
21 Digital White Frame BB 3	Done (in 0 min)
22 Threshold Scan 3.0 V	Done (in 7 min)
23 Tune VCASN Scan 3.0 V	Done (in 0 min)
24 Tune ITHR Scan 3.0 V	Done (in 0 min)
25 Threshold Scan 3.0 V	Done (in 7 min)
26 Noise Occupancy 3.0 V	Done (in 0 min)

HIC Qualification Test



scan	status
1 Fifo Scan	Done (in 22 min)
2 Endurance Cycle	Running 0
3 Endurance Cycle	Waiting
4 Endurance Cycle	Waiting
5 Endurance Cycle	Waiting
6 Endurance Cycle	Waiting
7 Endurance Cycle	Waiting
8 Endurance Cycle	Waiting
9 Endurance Cycle	Waiting
10 Endurance Cycle	Waiting
11 Endurance Cycle	Waiting

HIC Endurance Test



HIC Impedance Test



Activity Name	Activity Type	Start Date	End Date	Location	Activity Status	Activity Result
[162] Assembly of Module M294-2R-155-B025	[201] Assembly of Module	04.10.2021	07.10.2021	[81] JINR, Dubna	[82] CLOSED	[238] OK_GOLD

Output Components			
Component Type	Component ID	Functional Status	Physical Status
[209] MODULE	[250] - R:[152] M294-2R-155-B025	[297] [EMPTY]	[300] [EMPTY]

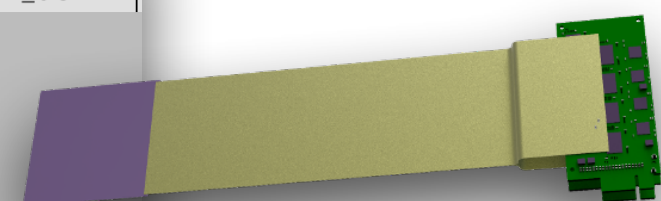
Input Components			
Component Type	Component ID	Functional Status	Physical Status
[207] FIN	[0] - R:[0]	[0]	[0]
[206] SENSOR	[251] - R:[151] 1CBM62HDS0038	[276] [EMPTY]	[279] [EMPTY]
[205] CCFEB	[0] - R:[0]	[0]	[0]
[205] CCFEB	[0] - R:[0]	[0]	[0]
[208] SET_OF_SHIELDING	[0] - R:[0]	[0]	[0]

Parameters			
Name	Description	Value	Unit
[129] Message ID	Message ID in ELOG	5	[282] Message ID
[0] FEB-P_HDR	FEB-P_HDR		[321] 1/0
[0] FEB-P_Sync	FEB-P_Sync		[321] 1/0
[0] FEB-P_BE test	FEB-P_BE test		[321] 1/0
[0] FEB-P_AFE test	FEB-P_AFE test		[321] 1/0
[0] FEB-P_Non working strips	Non-working strips (P-side)		[283] Strips
[0] FEB-P_Cluster_Size	FEB-P_Cluster_Size		[322] Cl.Size
[0] FEB-N_HDR	FEB-N_HDR		[321] 1/0
[0] FEB-N_Sync	FEB-N_Sync		[321] 1/0
[0] FEB-N_BE test	FEB-N_BE test		[321] 1/0
[0] FEB-N_AFE test	FEB-N_AFE test		[321] 1/0
[0] FEB-N_Non working strips	FEB-N_Non working strips		[283] Strips
[0] FEB-N_Cluster_Size	FEB-N_Cluster_Size		[322] Cl.Size

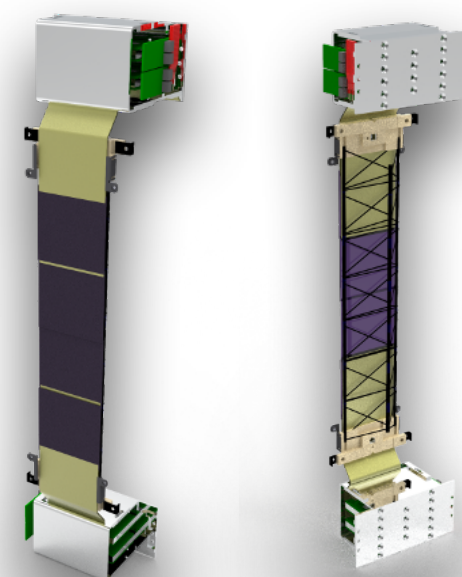
Attachments	
No Records	

Uri	
Uri	Description
[107] 159.93.221.79/eelog/Module+Assembly/5	ELOG details for the Module

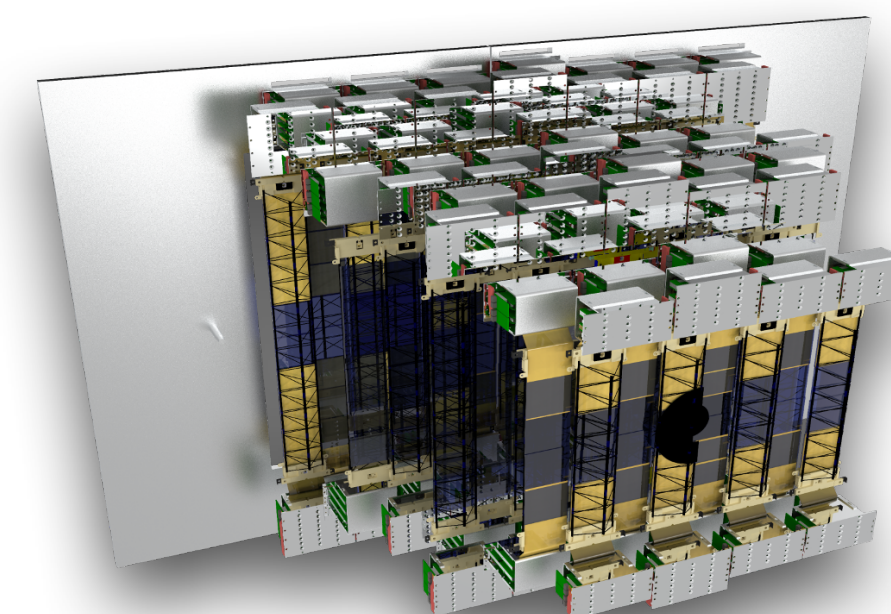
Members	
Name	
[221] - PIP: [162] Dementiev Dimitri Vladimirovich	



BM@N STS Module



BM@N STS Ladder

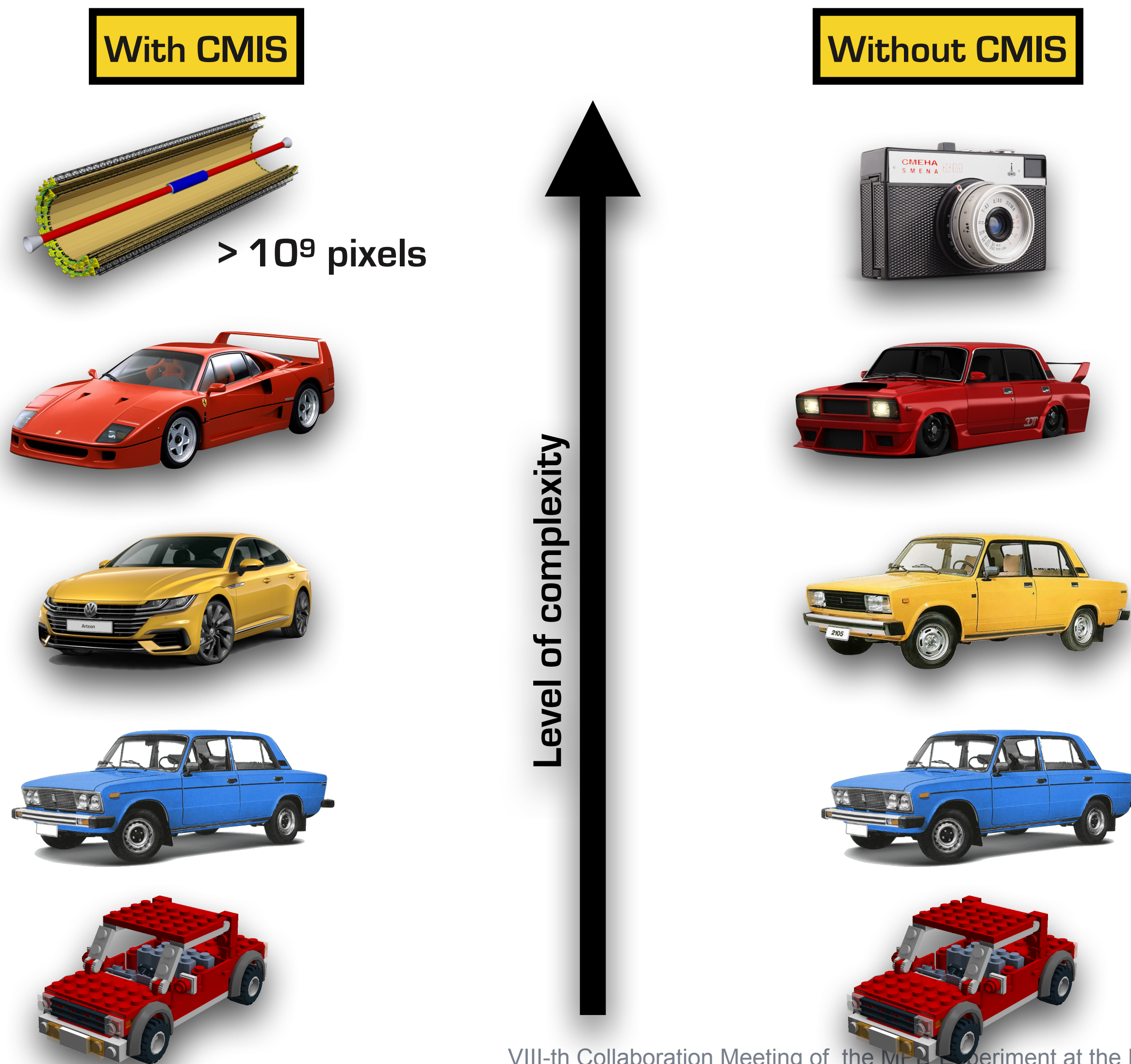


BM@N STS Station



- 4x - Stations;
- 44x - Ladders;
- 292x - Silicon strip modules.

If your apparatus is complex enough you should probably consider using CMIS for building it.



A (potential) future talk

“The Construction Management Information System for the MPD and other NICA projects [*]”

[*] and beyond...

Thank you for your attention

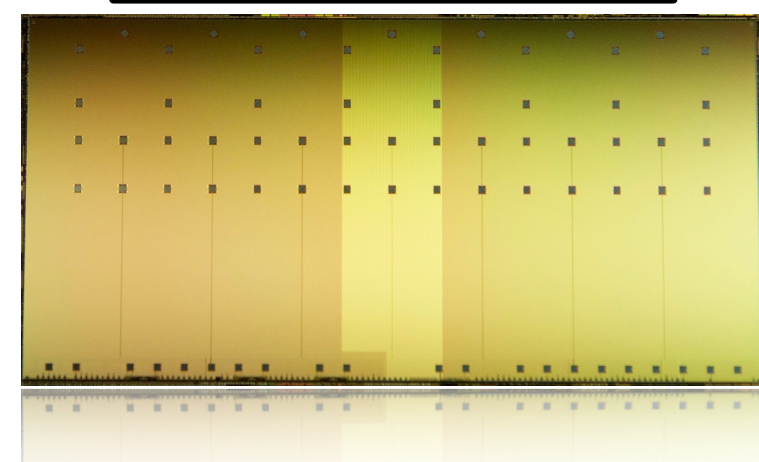


Backup

MPD-ITS

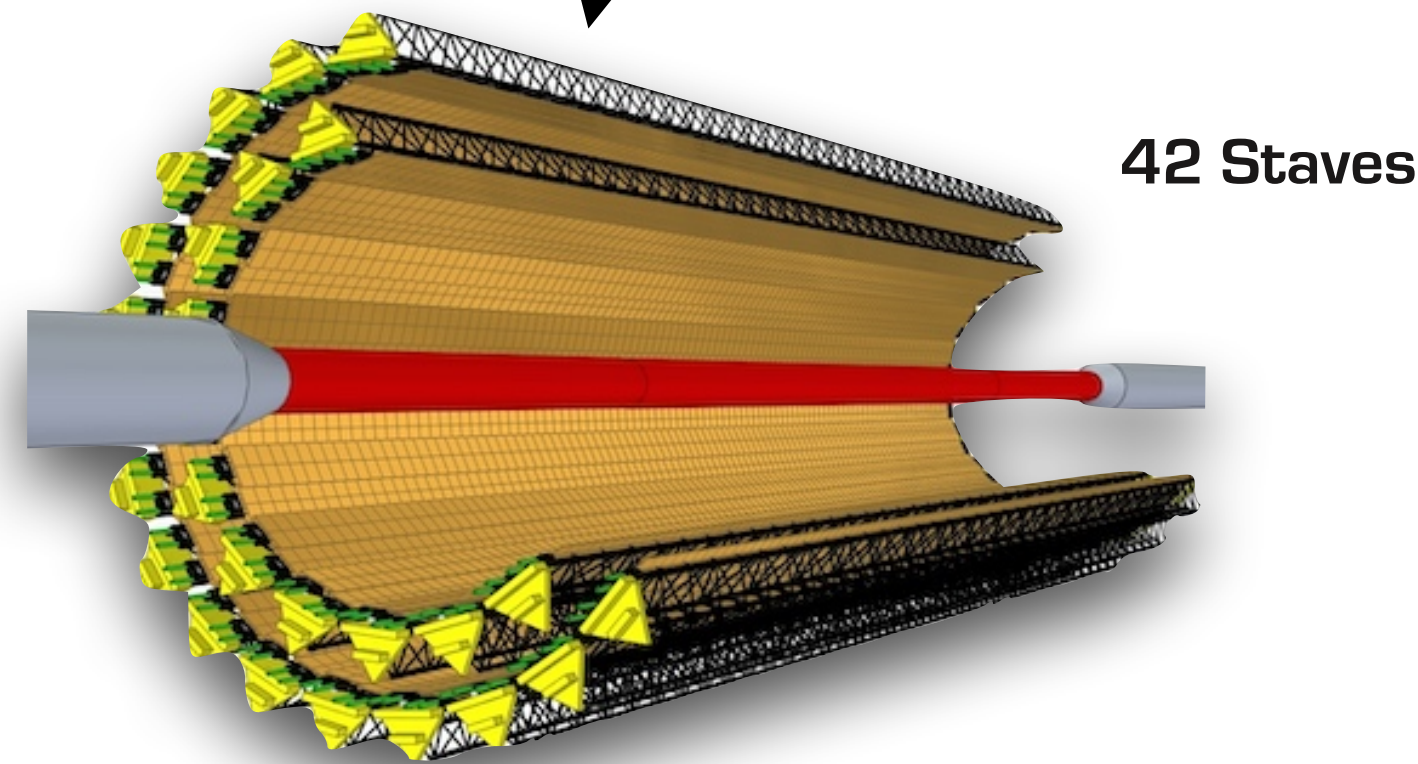
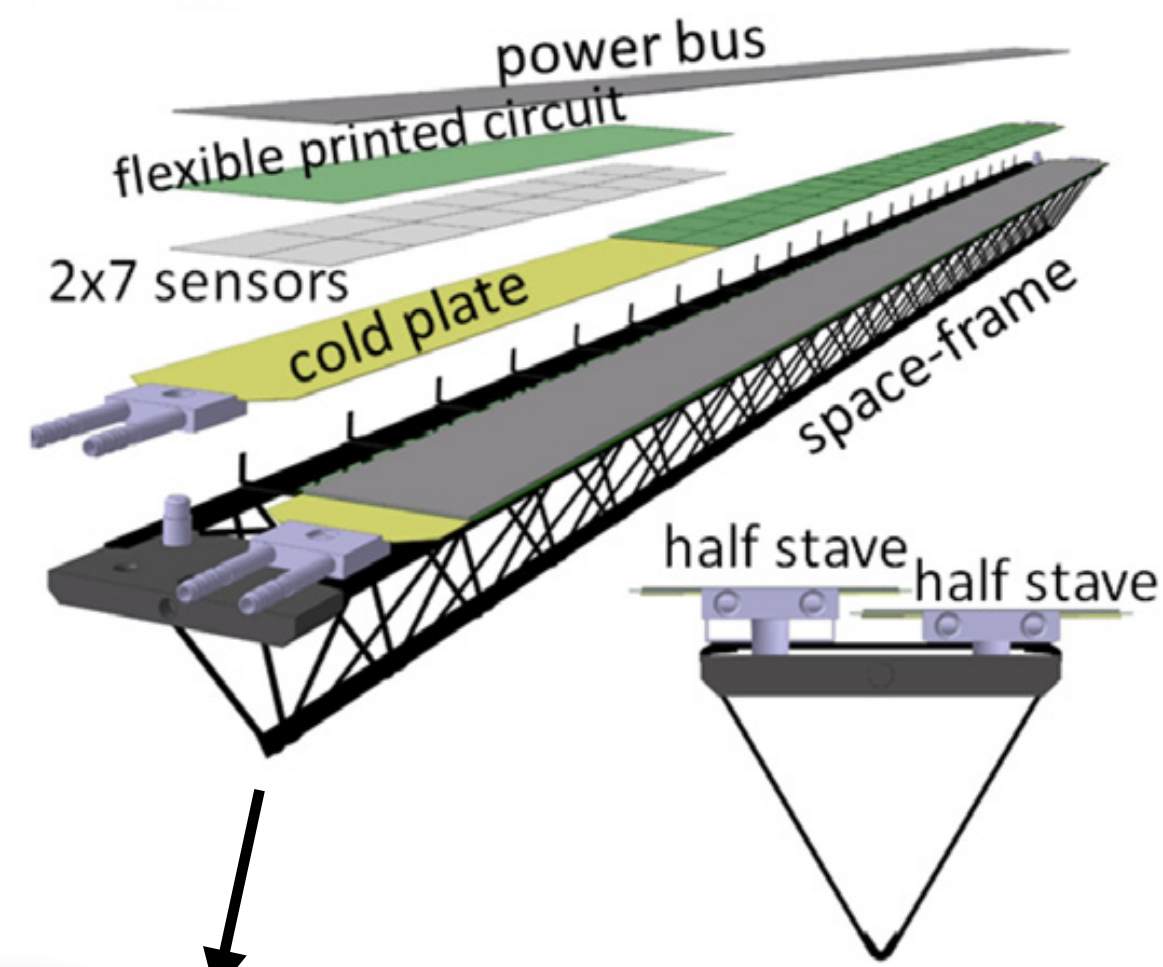


512 x 1024 pixels



Sensor architecture

Size: 15mm x 30mm
 Pixel pitch: 28 μ m x 28 μ m
 Event time resolution: < 2 μ s
 Power consumption: 39mW/cm²
 Dead area 1.1mm x 30mm










CERN **Resources** **Projects** Administration Help Logged user: Cesar Ceballos Sanchez | Log Off


Summary Info **Settings** Resources Organization Planning Construction Data Accounting Reports


Management Functions Activity Types Activity Status Parameters Component Categories **Component Types** Component Type Graph Raw Material Types Units

Component Types: Projects

Count: 55

Name	Description	Code	Fraction Of Working Spares	Total Quantity Of Working Components	Estimated Yield	Total Quantity To Be Manufactured	Estimated Total Unit Cost	Actual Total Unit Cost	
ALPIDEB Chip	ALPIDEB Chip	ALPIDEB	0	64400	1	64400	0		
ALPIDEB Circuit	ALPIDEB Circuit is intended for wafer probe testing	ALPIDEB_CIRCUIT	0	64400	1	64400	0		
ALPIDEB Tray	Tray containing up to 23 ALPIDEB chips	ALPIDEB_TRAY	0	2800	1	2800	0		
ALPIDEB Tray Box	Box for shipment of ALPIDEB Trays	ALPIDEB_TRAYBOX	0	100	1	100	0		
ALPIDEB Wafer	CMOS Wafer containing 46 ALPIDEB Circuits	WFR_ALPIDEB	0	1400	1	1400	0		
ALPIDEB Wafer Box	Wafer Box containg up to 25 ALPIDEB Wafers	WFRBOX_ALPIDEB	0	56	1	56	0		
ALPIDEB Wafer Lot	Lot of up to 25 ALPIDEB Wafers which can be divided and shipped over up to 5 ALPIDEB Wafer Boxes	WFRLOT_ALPIDEB	0	56	1	56	0		





Resources **Projects** Administration Help

Summary Info **Settings** Resources Organization Planning Construction Data Accounting Reports

Management Functions Activity Types Activity Status Parameters Component Categories **Component Types** Component Type Graph Raw Material Types Units

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Component Types: Project ITS

Count: 55


Name	Description	Code	Fraction Of Working Spares	Total Quantity Of Working Components	Estimated Yield	Total Quantity To Be Manufactured	Estimated Total Unit Cost	Actual Total Unit Cost
ALPIDEB Chip	ALPIDEB Chip	ALPIDEB	0	64400	1	64400	0	
ALPIDEB Circuit	ALPIDEB Circuit is intended for wafer probe testing	ALPIDEB_CIRCUIT	0	64400	1	64400	0	


Parents


Name	Fraction of Parent	Unit
ALPIDEB Wafer	46	pc
Outer Barrel HIC Module	14	pc
Inner Barrel HIC Module	9	pc
ALPIDEB Tray	24	pc

Children

Name	Quantity	Unit
None		







Menu: Projects (L1) - Settings (L2) - Component Type Graph (L3)



Resources **Projects** Administration Help Logged user: Cesar Ceballos Sanchez | Log Off

Summary Info **Settings** Resources Organization Planning Construction Data Accounting Reports

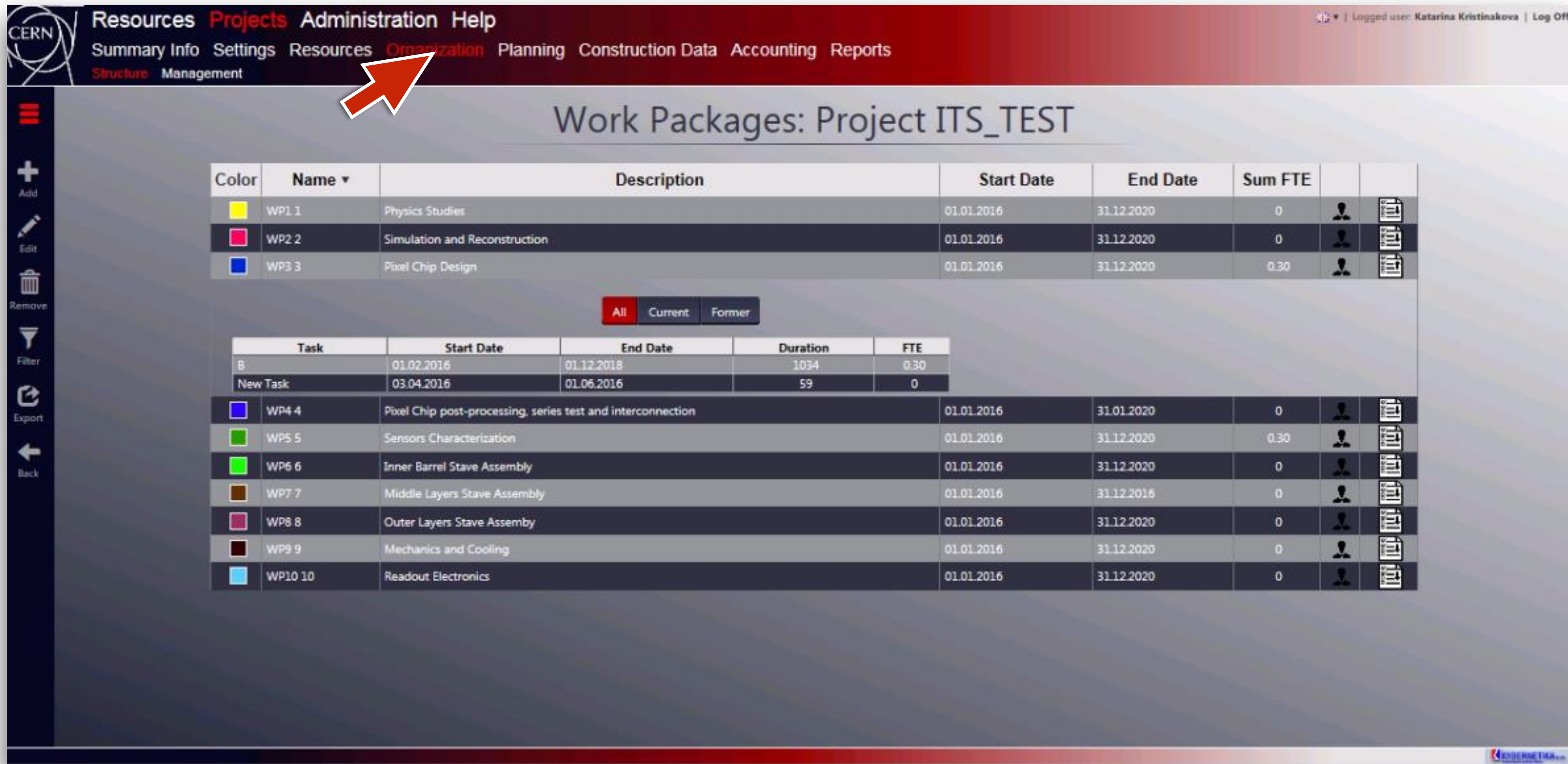
Management Functions Activity Types Activity Status Parameters Component Categories Component Types **Component Type Graph** Raw Material Types Units

Component Type Graph: Project ITS

Component Type
Outer Barrel HIC Module

```
graph TD; A[Outer Barrel HIC Module] --> B[ALPIDE B Chip]; A --> C[Outer Barrel FPC]; C --> D[Cross Cable Set]; C --> E[Blank Outer Barrel FPC];
```

Menu: Projects (L1) - Organization (L2) - Structure (L3)



Resources **Projects** Administration Help
Summary Info Settings Resources **Organization** Planning Construction Data Accounting Reports
Structure Management

Work Packages: Project ITS_TEST

Color	Name ▾	Description	Start Date	End Date	Sum FTE		
Yellow	WP1 1	Physics Studies	01.01.2016	31.12.2020	0	Person icon	Document icon
Pink	WP2 2	Simulation and Reconstruction	01.01.2016	31.12.2020	0	Person icon	Document icon
Blue	WP3 3	Pixel Chip Design	01.01.2016	31.12.2020	0.30	Person icon	Document icon

All Current Former

Task	Start Date	End Date	Duration	FTE
B	01.02.2016	01.12.2018	1034	0.30
New Task	03.04.2016	01.06.2016	59	0

Blue	WP4 4	Pixel Chip post-processing, series test and interconnection	01.01.2016	31.01.2020	0	Person icon	Document icon
Green	WP5 5	Sensors Characterization	01.01.2016	31.12.2020	0.30	Person icon	Document icon
Light Green	WP6 6	Inner Barrel Stave Assembly	01.01.2016	31.12.2020	0	Person icon	Document icon
Brown	WP7 7	Middle Layers Stave Assembly	01.01.2016	31.12.2016	0	Person icon	Document icon
Purple	WP8 8	Outer Layers Stave Assembly	01.01.2016	31.12.2020	0	Person icon	Document icon
Dark Brown	WP9 9	Mechanics and Cooling	01.01.2016	31.12.2020	0	Person icon	Document icon
Light Blue	WP10 10	Readout Electronics	01.01.2016	31.12.2020	0	Person icon	Document icon

Menu: Projects (L1) - Organization (L2) - Management (L3)



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Resources Projects Administration Help

Summary Info Settings Resources Organization Planning Construction Data Accounting Reports

Structure Management

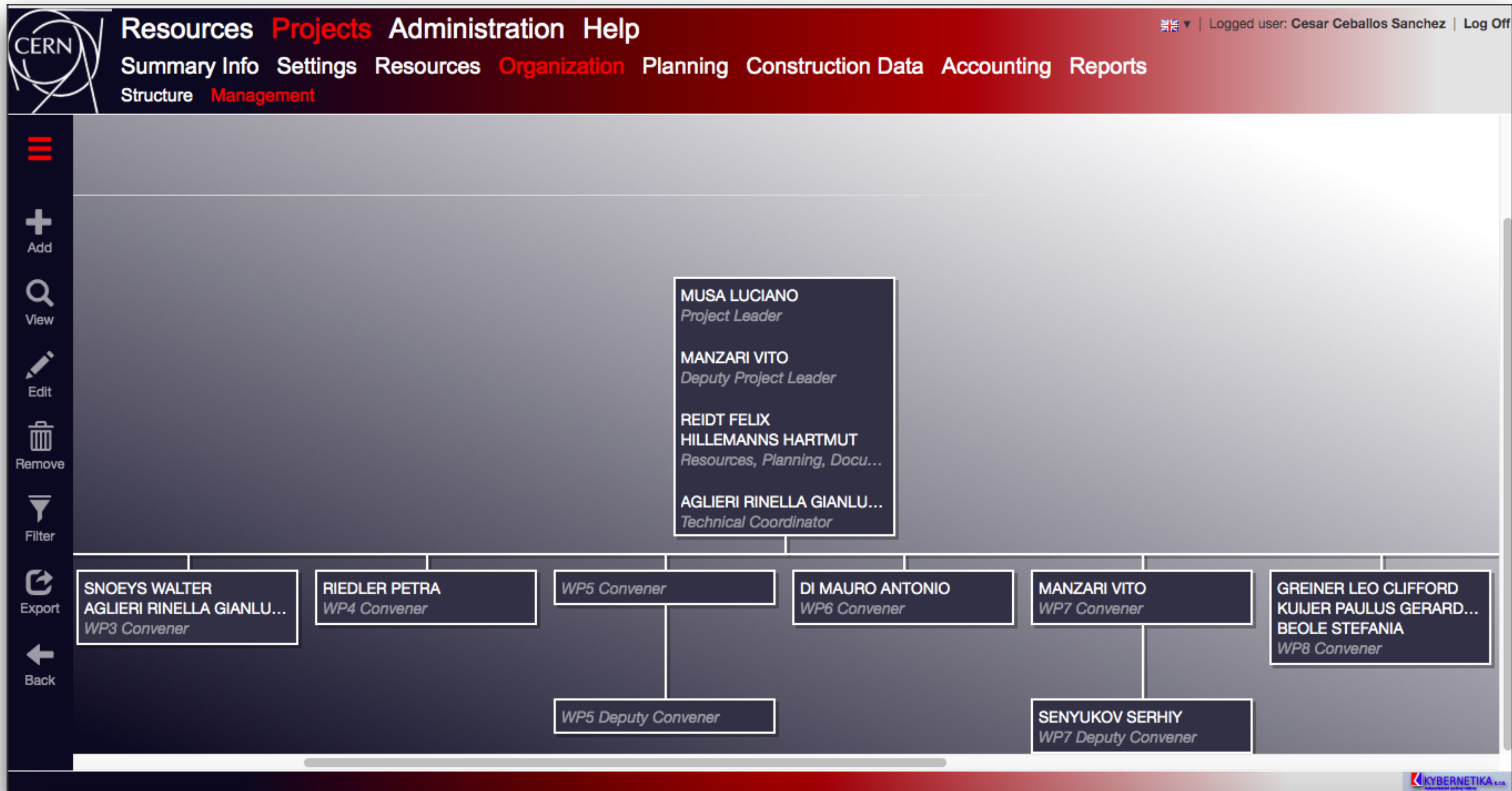
Assignments as of

Table Graph

Count: 20

Person	Function	Mandate From	Mandate Till	
MUSA LUCIANO	Project Leader	03.06.2017	31.12.2020	
MANZARI VITO	Deputy Project Leader	03.06.2017	31.12.2020	
DAINESE ANDREA	WP1 Convener	03.06.2017	31.12.2020	
MASERA MASSIMO	WP2 Convener	03.06.2017	31.12.2020	
BELIKOV IOURI	WP2 Convener	03.06.2017	31.12.2020	
SNOEYS WALTER	WP3 Convener	03.06.2017	31.12.2020	
AGLIERI RINELLA GIANLUCA	WP3 Convener	03.06.2017	31.12.2020	
RIEDLER PETRA	WP4 Convener	03.06.2017	31.12.2020	
DI MAURO ANTONIO	WP6 Convener	03.06.2017	31.12.2020	
MANZARI VITO	WP7 Convener	03.06.2017	31.12.2020	
GREINER LEO CLIFFORD	WP8 Convener	03.06.2017	31.12.2020	
KUIJER PAULUS GERARDUS	WP8 Convener	03.06.2017	31.12.2020	
BEOLE STEFANIA	WP8 Convener	03.06.2017	31.12.2020	
GARGIULO CORRADO	WP9 Convener	03.06.2017	31.12.2020	
SCHAMBACH JOHANN JOACHIM	WP10 Convener	03.06.2017	31.12.2020	
GIUBILATO PIERO	WP10 Convener	03.06.2017	31.12.2020	
REIDT FELIX	Resources, Planning, Documentation	03.06.2017	31.12.2020	
HILLEMANNS HARTMUT	Resources, Planning, Documentation	03.06.2017	31.12.2020	

Menu: Projects (L1) - Organization (L2) - Management (L3)



Menu: Projects (L1) - Planning (L2) - Tasks (L3)

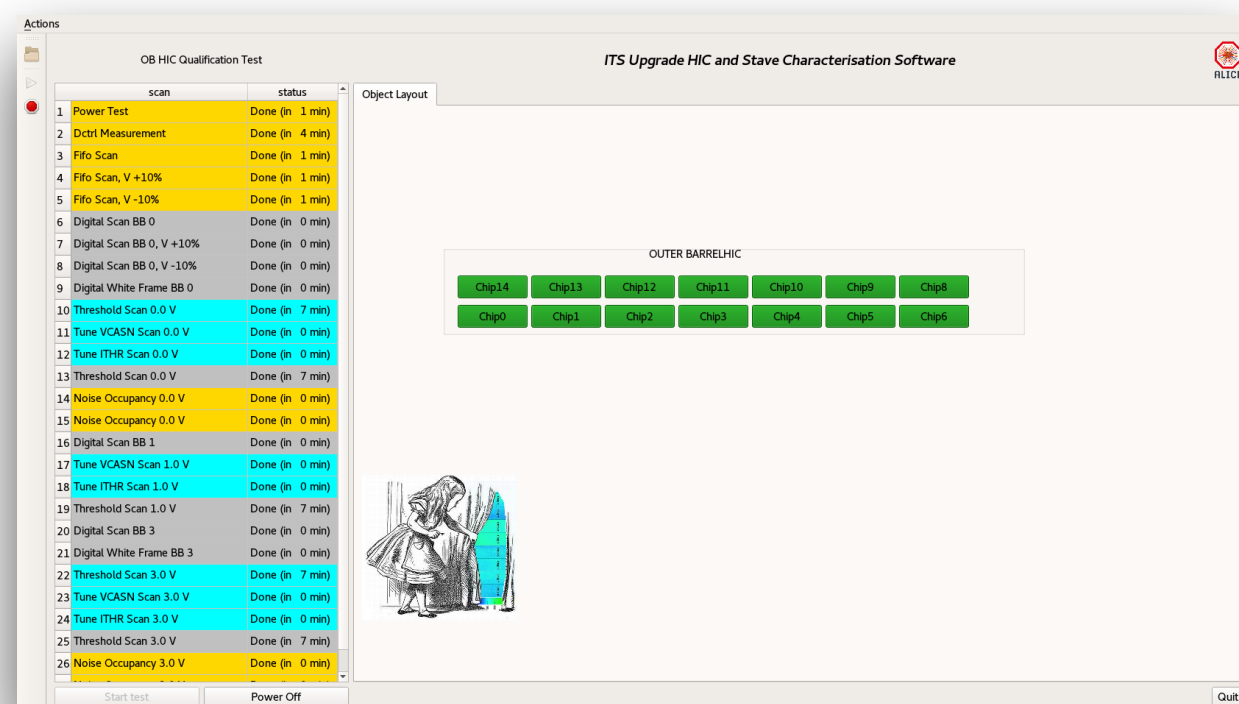


The screenshot shows a web-based project planning tool. At the top, there is a navigation menu with 'Projects' selected. Below the menu, the title 'Tasks: Project ITS upgrade' is displayed. A toolbar contains options for 'Days', 'Months', 'Quarters', 'Export Table', 'Print Chart', and 'Save version'. The main area is divided into a table on the left and a Gantt chart on the right. The table lists tasks with their names, start and end dates, durations, and task leaders. The Gantt chart visualizes these tasks as horizontal bars, with dependencies and milestones indicated by arrows and colored markers. A calendar for July 2015 is visible at the top of the chart area.

	Name	Start	End	Dur.	Task Leader
1	1 CERN CMS	08/06/2015	13/08/2015	49dd	TASK LEADER
2	1.1 Task management	22/06/2015	16/07/2015	19dd	TASK LEADER
3	1.1.1 Programming	22/06/2015	10/07/2015	15dd	TASK LEADER
4	1.1.1.1 Full editor	06/07/2015	10/07/2015	5dd	TASK LEADER
5	1.1.1.2 Task dependencies	06/07/2015	10/07/2015	5dd	TASK LEADER
6	1.1.2 Testing	13/07/2015	16/07/2015	4dd	TASK LEADER
7	1.2 TSK07	29/06/2015	03/07/2015	5dd	TASK LEADER
8	1.3 TSK08	17/07/2015	21/07/2015	3dd	TASK LEADER
9	1.4 Milestone	06/07/2015	17/07/2015	10dd	TASK LEADER
10	1.5 New one	22/06/2015	07/07/2015	12dd	TASK LEADER
11	1.6 Another new one	22/06/2015	03/07/2015	10dd	TASK LEADER
12	1.6.1 New Task	22/06/2015	03/07/2015	10dd	TASK LEADER
13	1.6.2 New Task	23/06/2015	30/06/2015	6dd	TASK LEADER

At any time the project planning can be saved, with a version number [date], and later retrieved.

Test



Test scans

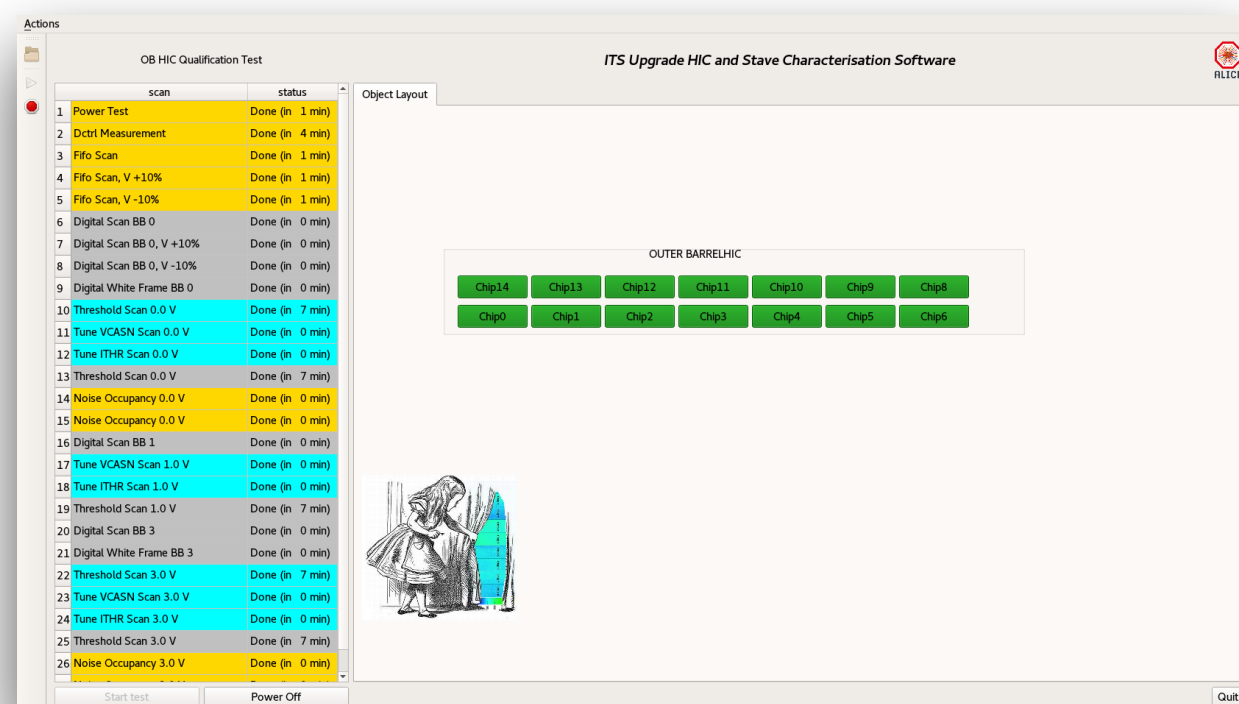
- Power Test.
- DCTRL Measurement.
- Fifo scan.
- Digital scan.
- Digital white frame.
- Threshold scan at 0V
- Threshold scan at -3V
- Threshold tuning at 0V
- Threshold tuning at -3V
- Noise occupancy at 0V
- Noise occupancy at -3V

Scans parameters for HIC classification

'Number of Working Chips',
 'IDDA clocked',
 'IDDD clocked',
 'Maximum bias voltage',
 'Back bias current 3V',
 'FIFO errors (nominal)',
 'FIFO errors (lower)',
 'FIFO errors (upper)',
 'FIFO exceptions (nominal)',
 'FIFO exceptions (lower)',
 'FIFO exceptions (upper)',
 'Timeouts digital (nominal)',
 'Timeouts digital (lower)',
 'Timeouts digital (upper)',
 'Corrupt events digital (nominal)',
 'Corrupt events digital (lower)',
 'Corrupt events digital (upper)',
 'Bad pixels digital (nominal)',
 'Bad pixels digital, worst chip (nominal)',
 'Bad pixels digital (lower)',
 'Bad pixels digital, worst chip (lower)',
 'Bad pixels digital (upper)',
 'Bad pixels digital, worst chip (upper)',
 'Timeouts digital (nominal) BB 3V',
 'Corrupt events digital (nominal) BB 3V',
 'Bad pixels digital (nominal) BB 3V',
 'Bad pixels digital, worst chip (nominal) BB 3V',
 'Pixels without threshold tuned 0V',
 'Pixels without thresh, worst, threshold tuned 0V',

'Pixels without threshold tuned 3V',
 'Pixels without thresh, worst, threshold tuned 3V',
 'Dead pixels threshold tuned 0V',
 'Dead pixels, worst chip, threshold tuned 0V',
 'Dead pixels threshold tuned 3V',
 'Dead pixels, worst chip, threshold tuned 3V',
 'Average noise threshold tuned 0V',
 'Average noise threshold tuned 3V',
 'isy pixels 0V',
 'Noisy pixels 3V',
 'Noisy pixels masked 0V',
 'Noisy pixels masked 3V',
 'DCTRL worst max amplitude',
 'DCTRL worst slope',
 'DCTRL worst chi square',
 'DCTRL worst rise time',
 'DCTRL worst fall time',

Test



Test scans

- Power Test.
- DCTRL Measurement.
- Fifo scan.
- Digital scan.
- Digital white frame.
- **Threshold scan at 0V**
- Threshold scan at -3V
- Threshold tuning at 0V
- Threshold tuning at -3V
- Noise occupancy at 0V
- Noise occupancy at -3V

Scans parameters for HIC classification

'Number of Working Chips',
 'IDDA clocked',
 'IDDD clocked',
 'Maximum bias voltage',
 'Back bias current 3V',
 'FIFO errors (nominal)',
 'FIFO errors (lower)',
 'FIFO errors (upper)',
 'FIFO exceptions (nominal)',
 'FIFO exceptions (lower)',
 'FIFO exceptions (upper)',
 'Timeouts digital (nominal)',
 'Timeouts digital (lower)',
 'Timeouts digital (upper)',
 'Corrupt events digital (nominal)',
 'Corrupt events digital (lower)',
 'Corrupt events digital (upper)',
 'Bad pixels digital (nominal)',
 'Bad pixels digital, worst chip (nominal)',
 'Bad pixels digital (lower)',
 'Bad pixels digital, worst chip (lower)',
 'Bad pixels digital (upper)',
 'Bad pixels digital, worst chip (upper)',
 'Timeouts digital (nominal) BB 3V',
 'Corrupt events digital (nominal) BB 3V',
 'Bad pixels digital (nominal) BB 3V',
 'Bad pixels digital, worst chip (nominal) BB 3V',
 'Pixels without threshold tuned 0V',
'Pixels without thresh, worst, threshold tuned 0V',

'Pixels without threshold tuned 3V',
 'Pixels without thresh, worst, threshold tuned 3V',
 'Dead pixels threshold tuned 0V',
'Dead pixels, worst chip, threshold tuned 0V',
 'Dead pixels threshold tuned 3V',
 'Dead pixels, worst chip, threshold tuned 3V',
'Average noise threshold tuned 0V',
 'Average noise threshold tuned 3V',
 'Noisy pixels 0V',
 'Noisy pixels 3V',
 'Noisy pixels masked 0V',
 'Noisy pixels masked 3V',
 'DCTRL worst max amplitude',
 'DCTRL worst slope',
 'DCTRL worst chi square',
 'DCTRL worst rise time',
 'DCTRL worst fall time',

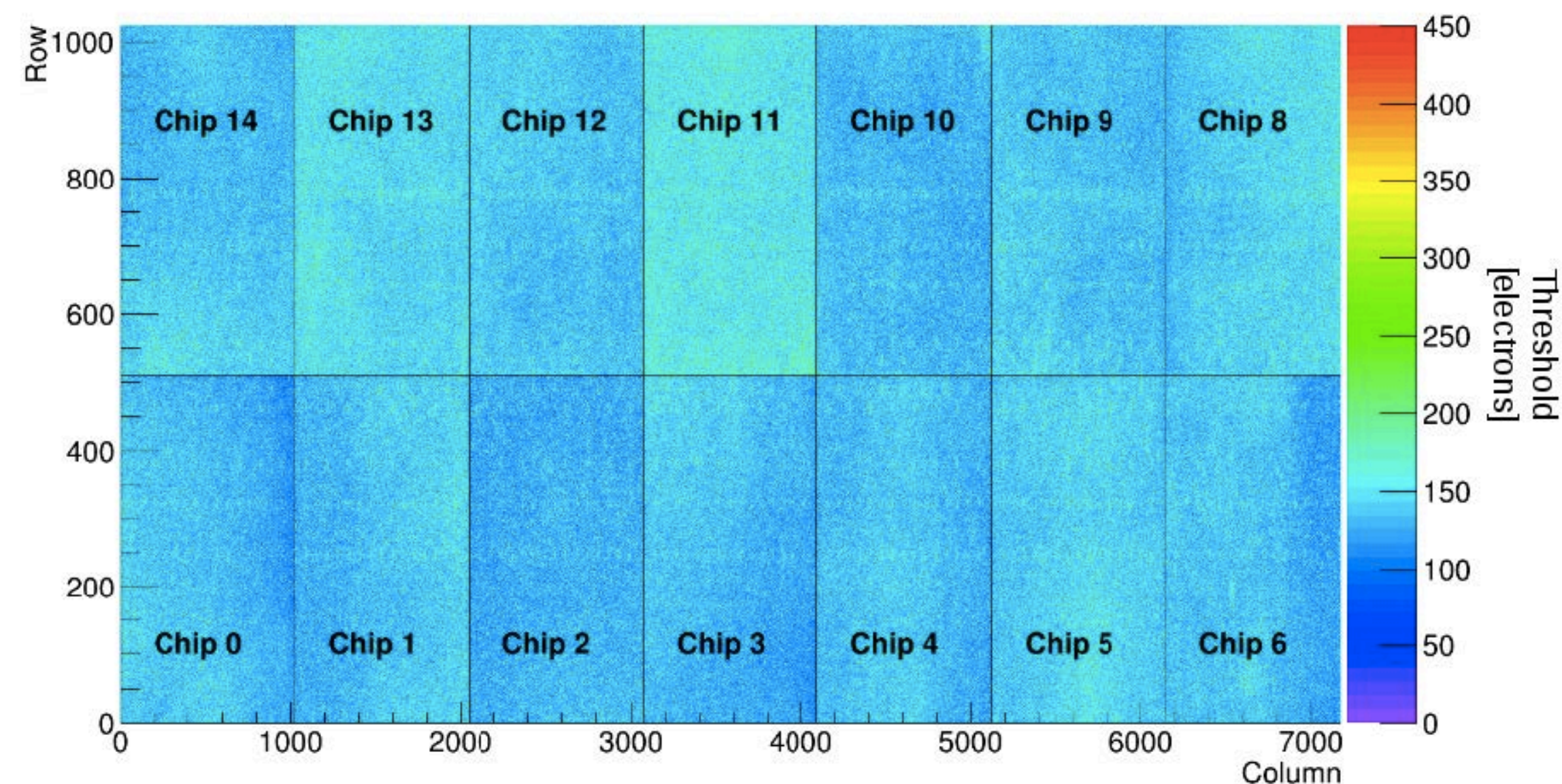
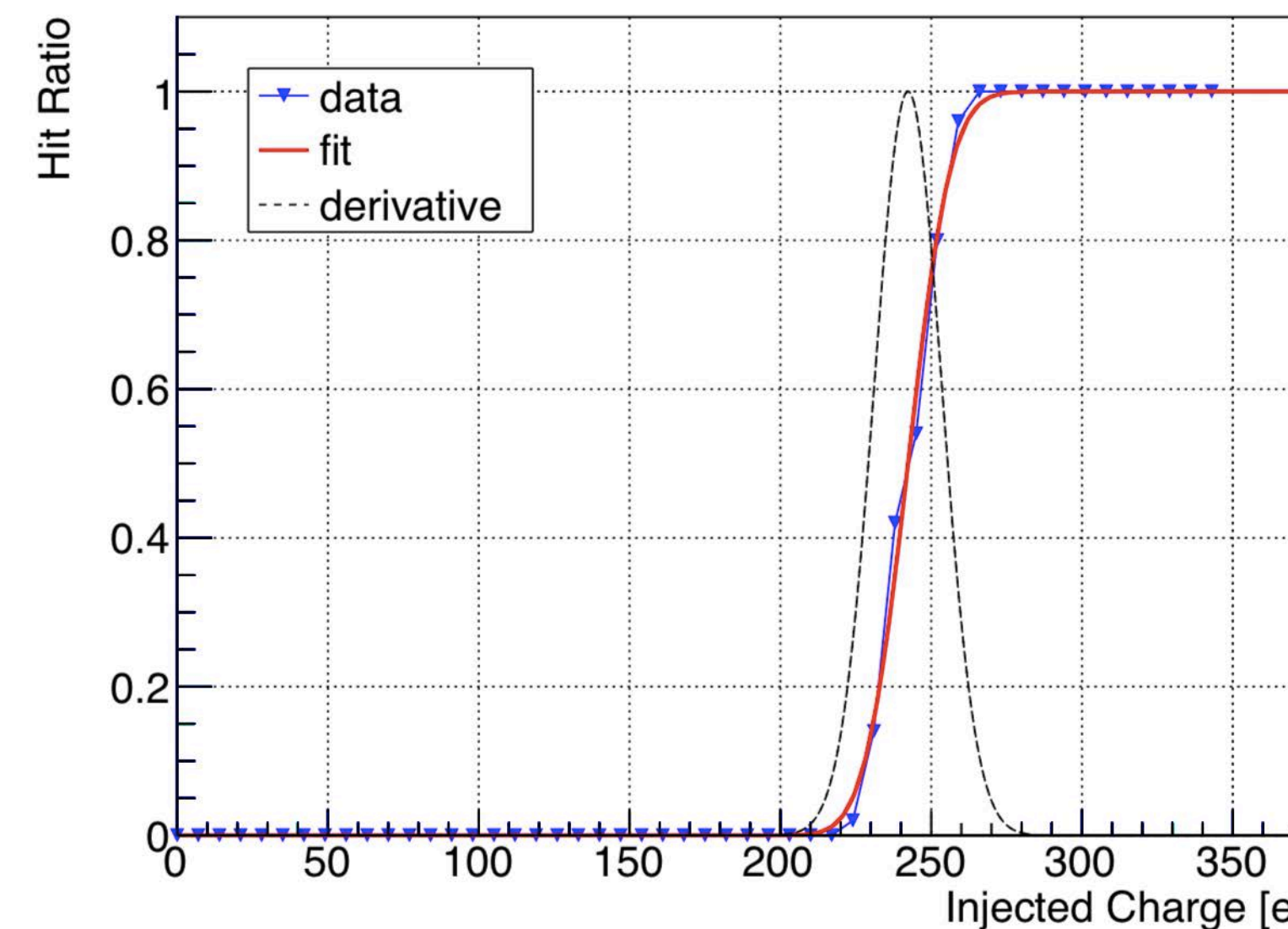
Threshold Scan:

- » It determines the threshold and noise of each pixel in units of electrons.
- » Checks out the analog performance of the chip.
- » Pixel by pixel threshold tuning

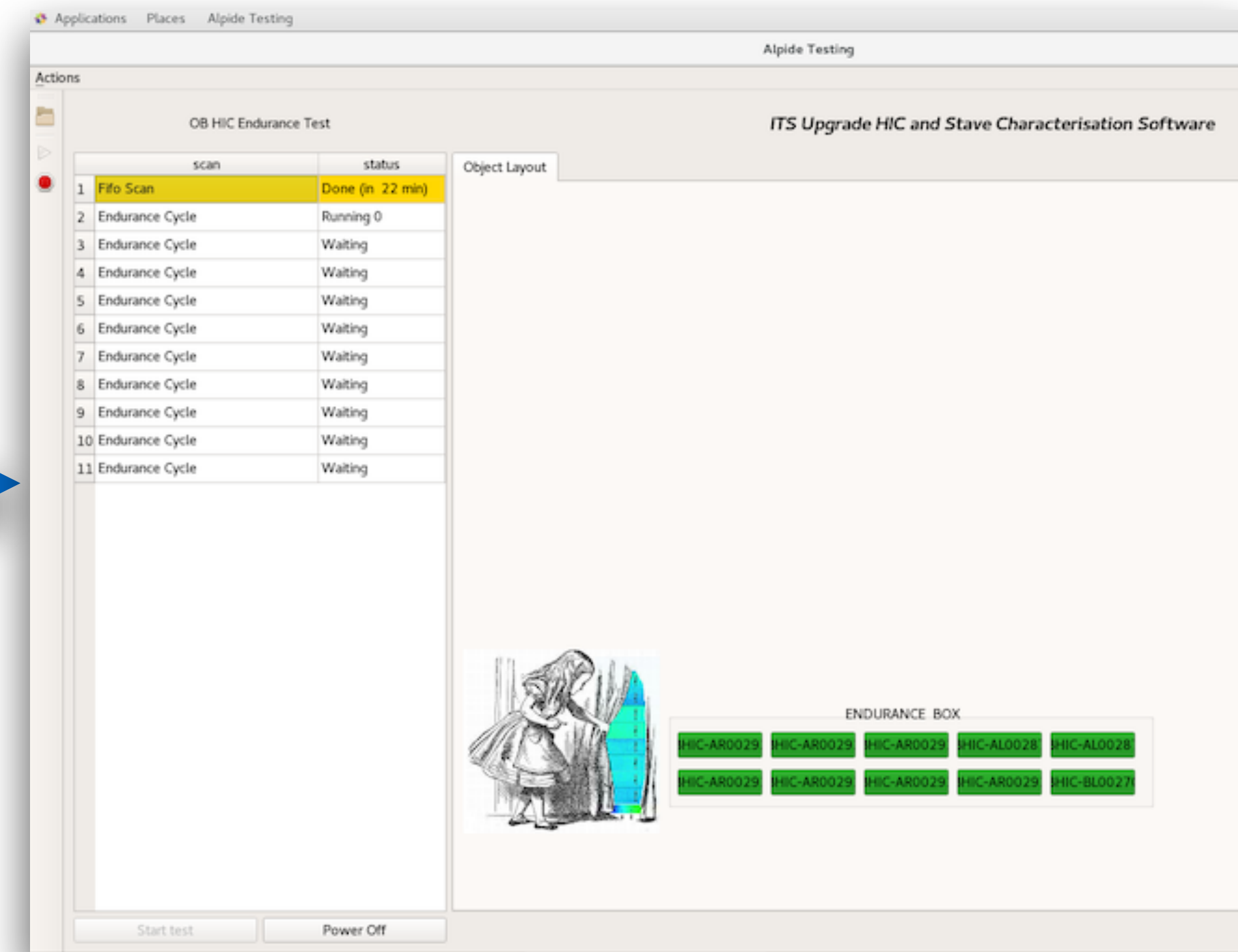
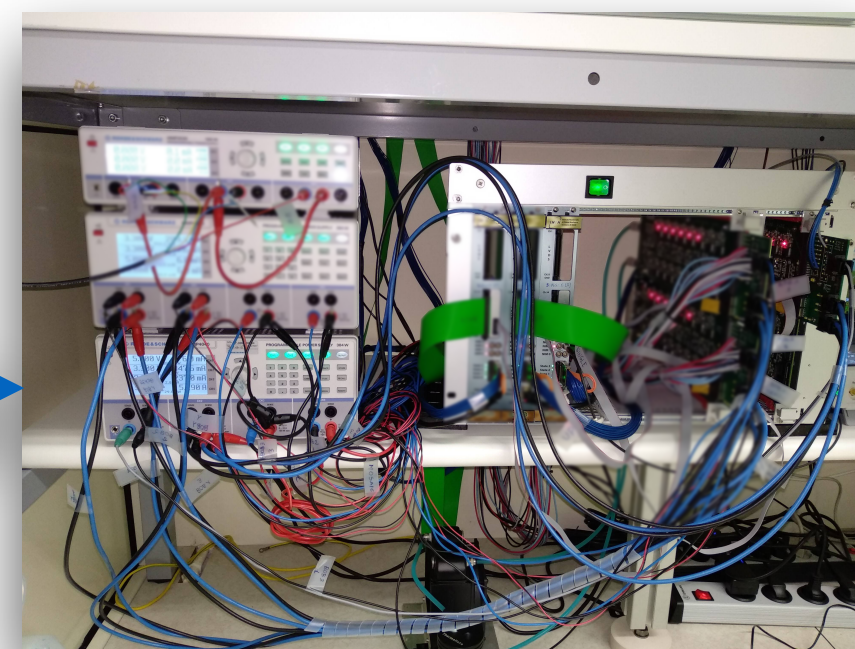
Parameter cuts for HIC classification. (Gold otherwise)

Parameter	SILVER	BRONZE	NOT WORKING
Dead pixels, worst chip, threshold tuned OV	> 50	> 2100	> 5243
Pixels without thresh, worst, threshold tuned OV	> 5243	> 26214	> 52429
Average noise threshold tuned OV	> 10 el	-	-

- At the end of each **scan**, the cuts on the related parameters are applied and the scan gets the classification of the **worst-ranking parameter**.
- At the end of the test, the **HIC** is classified as the **worst-ranking scan**.



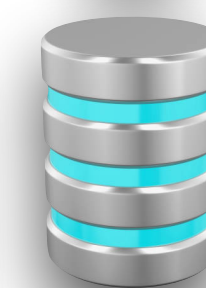
A series of power cycles and FIFO scans (writing and reading back registers) for testing the chips control interface.



Test characteristics

- Number of slices: 10
- Cycles per slice: 13
- Slice time limit: 8h
- Uptime: 1600s
- Down time: 200s
- Number of triggers: 100000

Impedance, Qualification and Endurance tests are performed on all HICs.



AlucmsWebAPI

Click [here](#) for a complete list of operations.

ActivityCreate

Test

To test the operation using the HTTP POST protocol, click the 'Invoke' button.

Parameter	Value
activityTypeID:	<input type="text"/>
locationID:	<input type="text"/>
lotID:	<input type="text"/>
activityName:	<input type="text"/>
startDate:	<input type="text"/>
endDate:	<input type="text"/>
position:	<input type="text"/>
resultID:	<input type="text"/>
statusID:	<input type="text"/>
userID:	<input type="text"/>

SOAP 1.1

The following is a sample SOAP 1.1 request and response. The [placeholders](#) shown need to be replaced with actual values.

```
POST /AlucmswebAPI.asmx HTTP/1.1
Host: alucmsapi.web.cern.ch
Content-Type: text/xml; charset=utf-8
Content-Length: length
SOAPAction: "http://tempuri.org/ActivityCreate"

<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
```



```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ActivityCreate xmlns="http://tempuri.org/">
      <activityTypeID>int</activityTypeID>
      <locationID>int</locationID>
      <lotID>string</lotID>
      <activityName>string</activityName>
      <startDate>string</startDate>
      <endDate>string</endDate>
      <position>string</position>
      <resultID>int</resultID>
      <statusID>int</statusID>
      <userID>int</userID>
    </ActivityCreate>
  </soap:Body>
</soap:Envelope>
```

HTTP/1.1 200 OK

Content-Type: text/xml; charset=utf-8
Content-Length: length

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ActivityCreateResponse xmlns="http://tempuri.org/">
      <ActivityCreateResult>
        <ErrorCode>int</ErrorCode>
        <ErrorMessage>string</ErrorMessage>
        <ID>int</ID>
      </ActivityCreateResult>
    </ActivityCreateResponse>
  </soap:Body>
</soap:Envelope>
```

SOAP 1.2

The following is a sample SOAP 1.2 request and response. The [placeholders](#) shown need to be replaced with actual values.

```
POST /AlucmswebAPI.asmx HTTP/1.1
Host: alucmsapi.web.cern.ch
Content-Type: application/soap+xml; charset=utf-8
Content-Length: length

<?xml version="1.0" encoding="utf-8"?>
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap12="http://www.w3.org/2003/05/soap-envelope">
  <soap12:Body>
    <ActivityCreate xmlns="http://tempuri.org/">
      <activityTypeID>int</activityTypeID>
      <locationID>int</locationID>
      <lotID>string</lotID>
      <activityName>string</activityName>
      <startDate>string</startDate>
```



```
<startDate>string</startDate>
<endDate>string</endDate>
<position>string</position>
<resultID>int</resultID>
<statusID>int</statusID>
<userID>int</userID>
</ActivityCreate>
</soap12:Body>
</soap12:Envelope>
```

```
HTTP/1.1 200 OK
Content-Type: application/soap+xml; charset=utf-8
Content-Length: length

<?xml version="1.0" encoding="utf-8"?>
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap12="http://www.w3.org/2003/05/soap-envelope">
  <soap12:Body>
    <ActivityCreateResponse xmlns="http://tempuri.org/">
      <ActivityCreateResult>
        <ErrorCode>int</ErrorCode>
        <ErrorMessage>string</ErrorMessage>
        <ID>int</ID>
      </ActivityCreateResult>
    </ActivityCreateResponse>
  </soap12:Body>
</soap12:Envelope>
```

HTTP GET

The following is a sample HTTP GET request and response. The [placeholders](#) shown need to be replaced with actual values.

```
GET /AlucmswebAPI.asmx/ActivityCreate?activityTypeID=string&locationID=string&lotID=string&activityName=string&startDate=string&endDate=string&position=string&resultID=string&statusID=string
Host: alucmsapi.web.cern.ch
```

```
HTTP/1.1 200 OK
Content-Type: text/xml; charset=utf-8
Content-Length: length

<?xml version="1.0" encoding="utf-8"?>
<FunctionResult xmlns="http://tempuri.org/">
  <ErrorCode>int</ErrorCode>
  <ErrorMessage>string</ErrorMessage>
  <ID>int</ID>
</FunctionResult>
```

HTTP POST

The following is a sample HTTP POST request and response. The [placeholders](#) shown need to be replaced with actual values.

```
POST /AlucmswebAPI.asmx/ActivityCreate HTTP/1.1
Host: alucmsapi.web.cern.ch
Content-Type: application/x-www-form-urlencoded
```

```
<ActivityCreateResult>  
  <ErrorCode>int</ErrorCode>  
  <ErrorMessage>string</ErrorMessage>  
  <ID>int</ID>  
</ActivityCreateResult>  
</ActivityCreateResponse>  
</soap12:Body>  
</soap12:Envelope>
```

HTTP GET

The following is a sample HTTP GET request and response. The [placeholders](#) shown need to be replaced with actual values.

```
GET /AlucmswebAPI.asmx/ActivityCreate?activityTypeID=string&locationID=string&lotID=string&activityName=string&startDate=string&endDate=string&position=string&resultID=string&statusID=string  
Host: alucmsapi.web.cern.ch
```

```
HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: length
```

```
<?xml version="1.0" encoding="utf-8"?>  
<FunctionResult xmlns="http://tempuri.org/">  
  <ErrorCode>int</ErrorCode>  
  <ErrorMessage>string</ErrorMessage>  
  <ID>int</ID>  
</FunctionResult>
```

HTTP POST

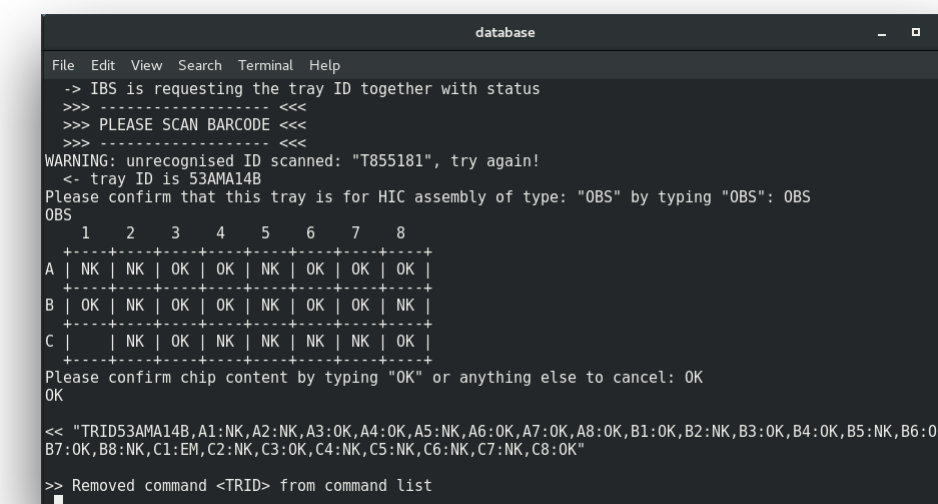
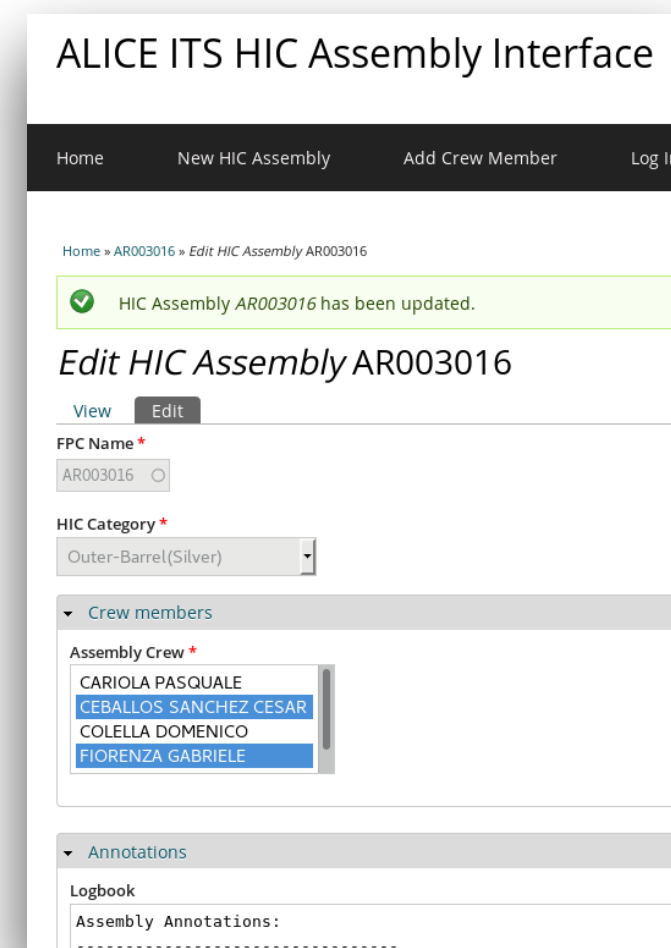
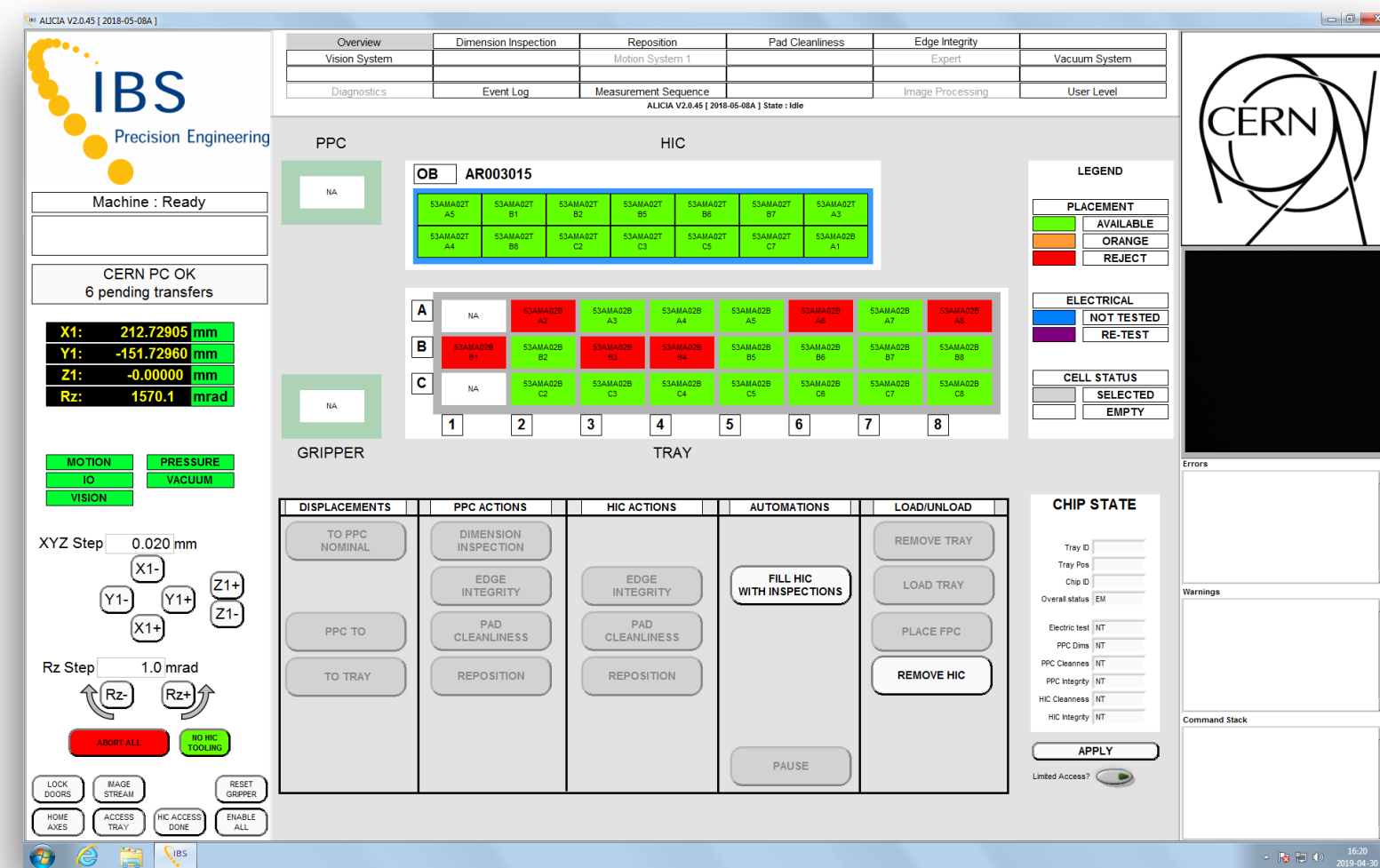
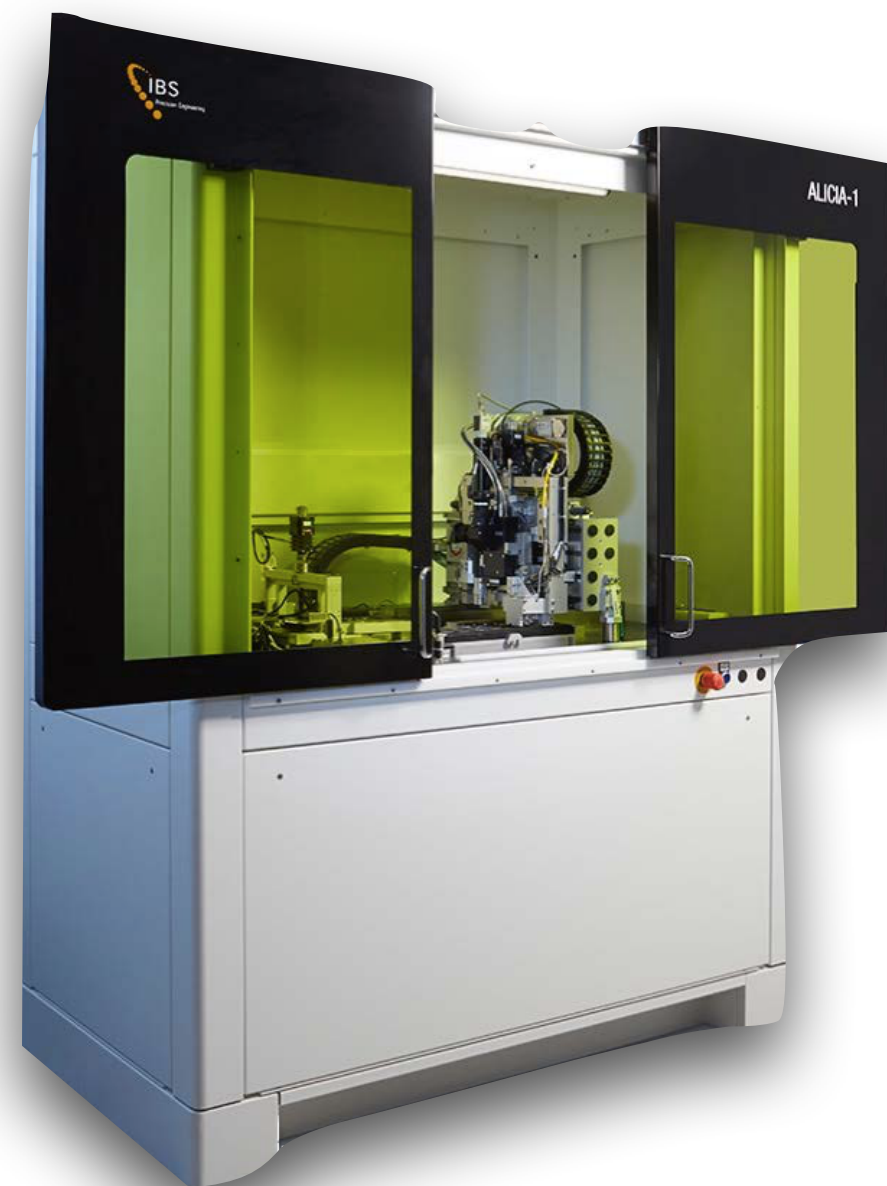
The following is a sample HTTP POST request and response. The [placeholders](#) shown need to be replaced with actual values.

```
POST /AlucmswebAPI.asmx/ActivityCreate HTTP/1.1  
Host: alucmsapi.web.cern.ch  
Content-Type: application/x-www-form-urlencoded  
Content-Length: length
```

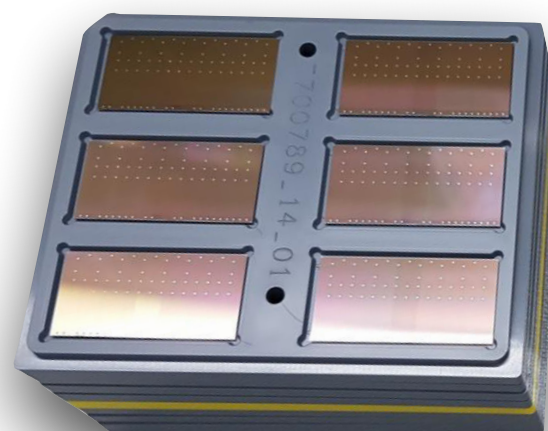
```
activityTypeID=string&locationID=string&lotID=string&activityName=string&startDate=string&endDate=string&position=string&resultID=string&statusID=string&userID=string
```

```
HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: length
```

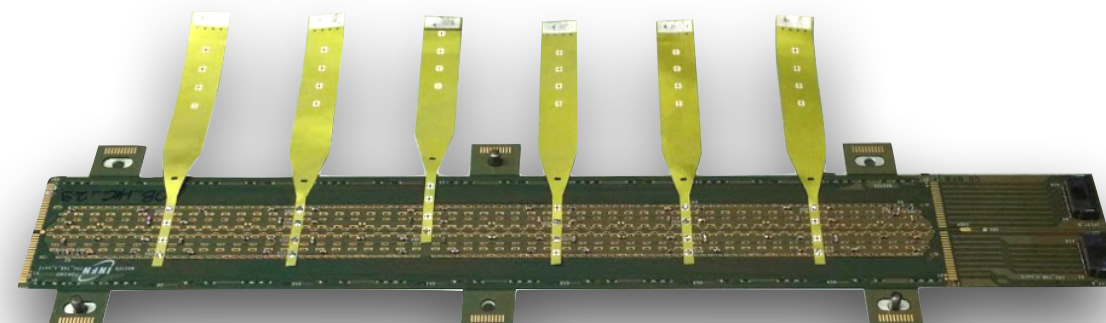
```
<?xml version="1.0" encoding="utf-8"?>  
<FunctionResult xmlns="http://tempuri.org/">  
  <ErrorCode>int</ErrorCode>  
  <ErrorMessage>string</ErrorMessage>  
  <ID>int</ID>  
</FunctionResult>
```

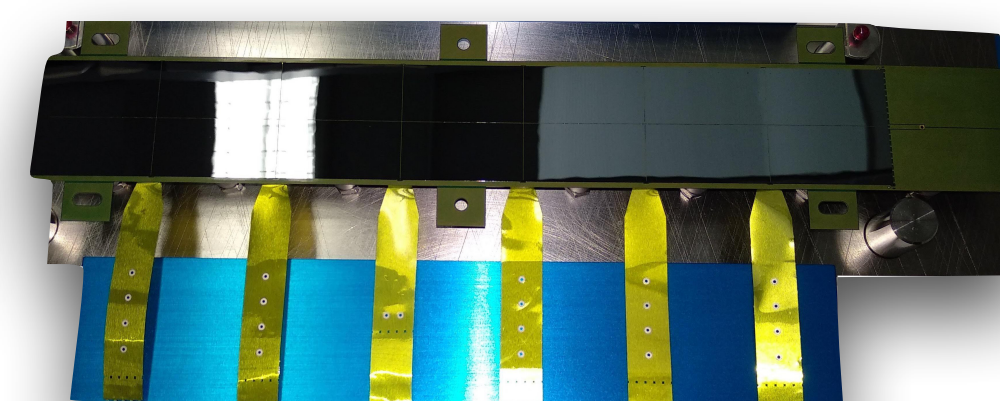
2 x 7 Chips



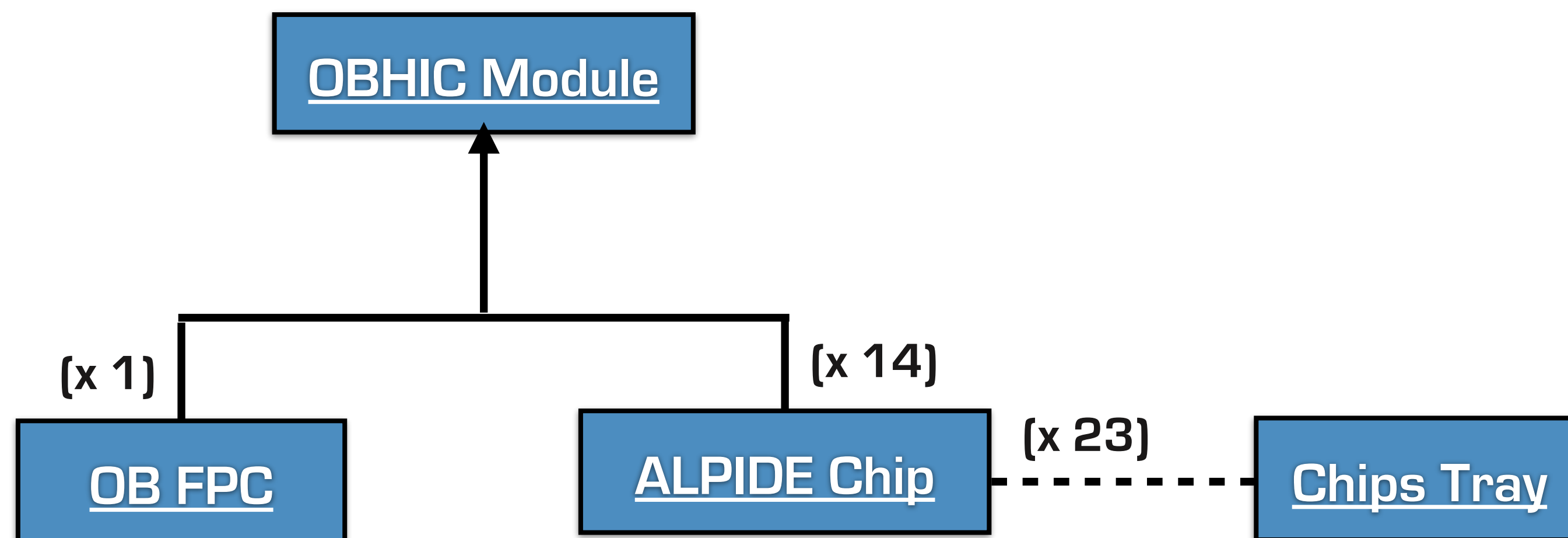
1 FPC



1 OBHIC



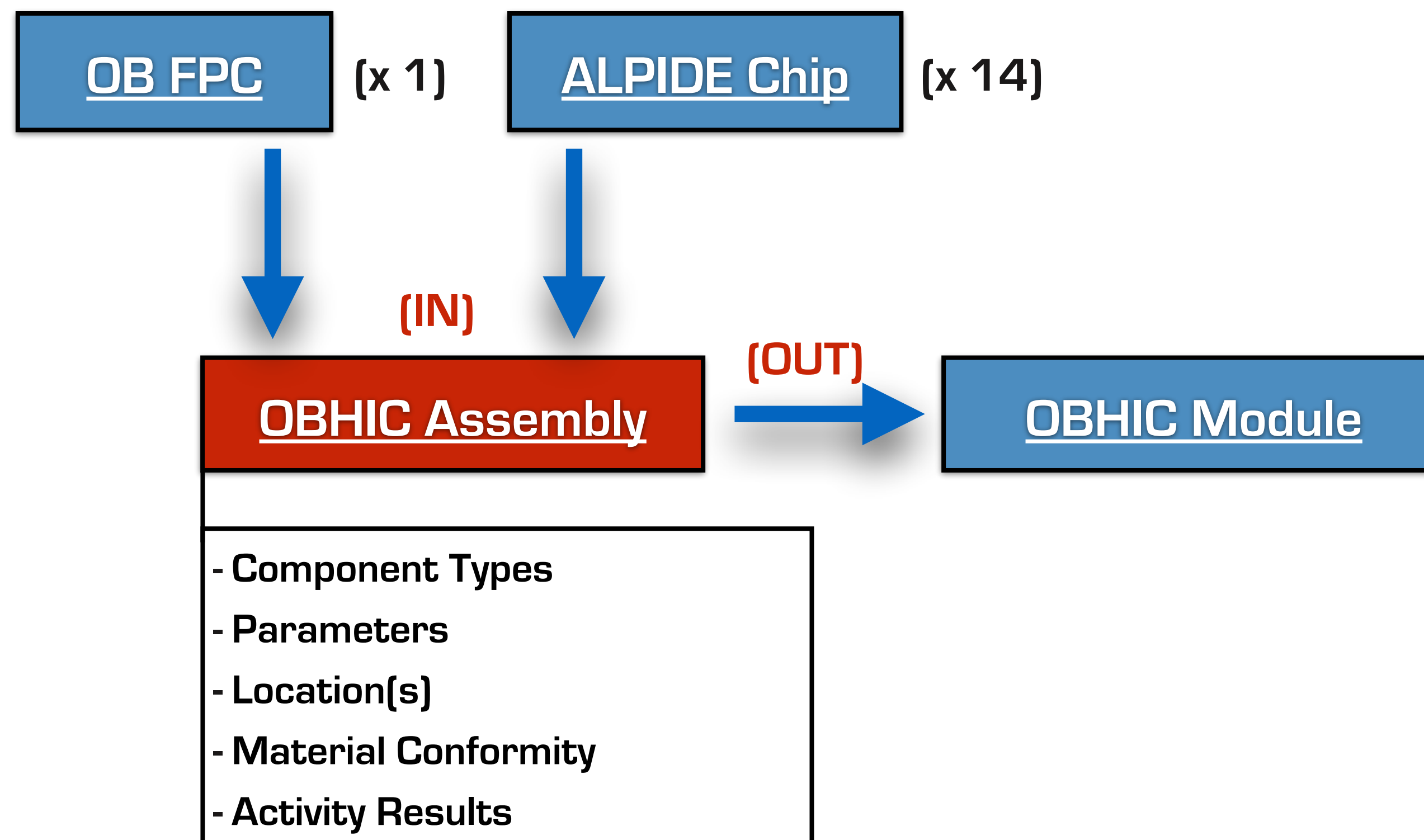
1. Defining the **Component Type** (Web Interface)



Component Categories

- Pixel Chip
- Chip Container
- Flexible Printed Circuit
- HIC Module

2. Defining the **Activity Type** (Web Interface)



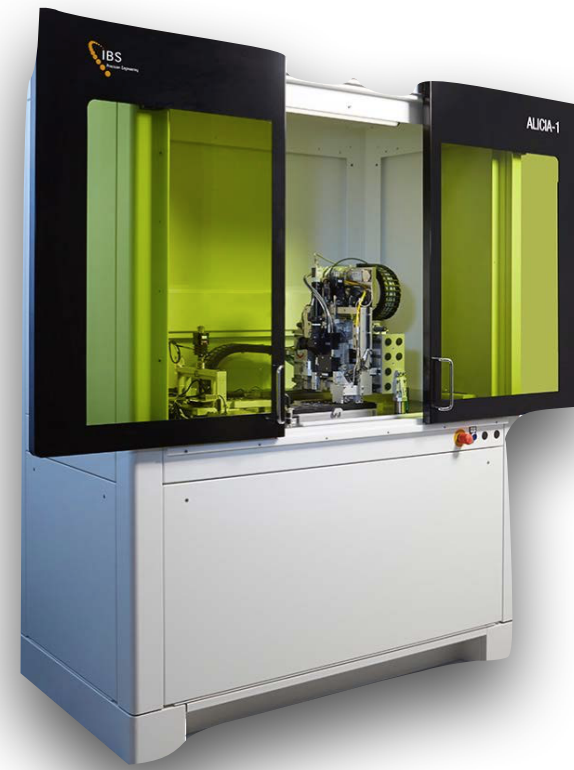
3. Creating the **specific OBHIC Component**

(Components already existing on the DB)



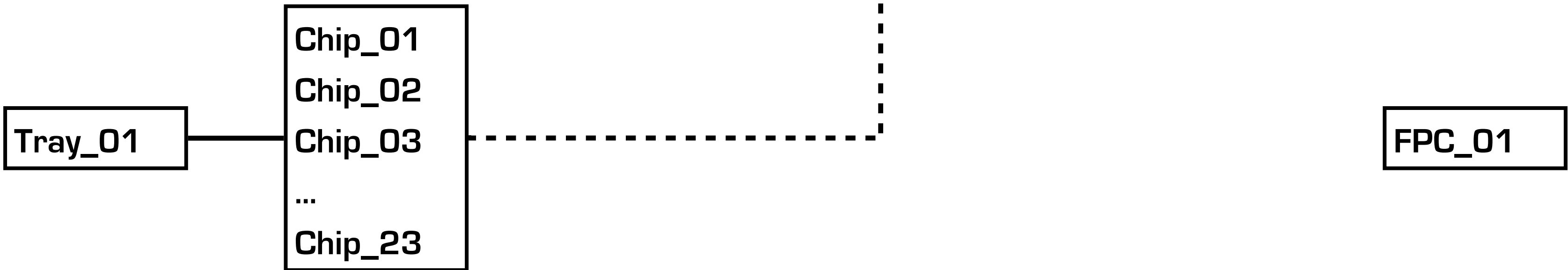
3. Creating the specific OBHIC Component

1. Scan tray's barcode and load the tray into the MAM
 The following information is retrieved:
 - The **Component ID** of all chips belonging to that tray.
 - The **Position** of each chip in the tray.
 - The **Physical Status and Functional Status** of each chip.
 - The tray map shows **"OK/NK"** for each chip
 The chip alignment starts



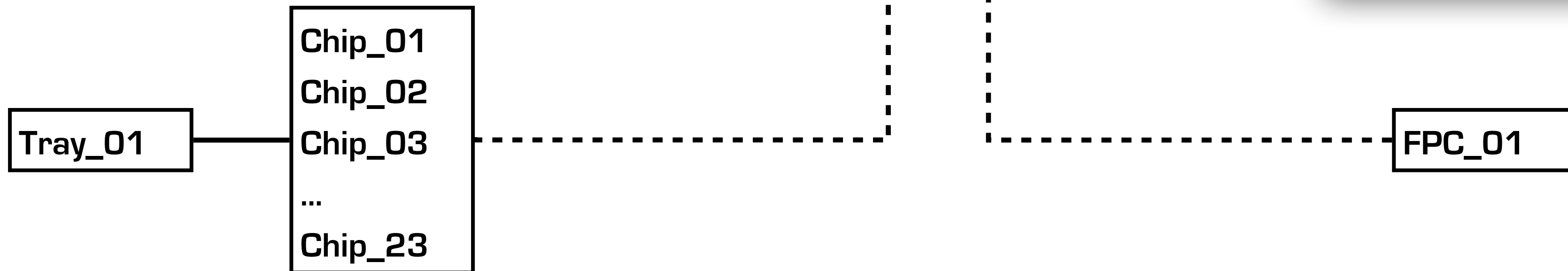
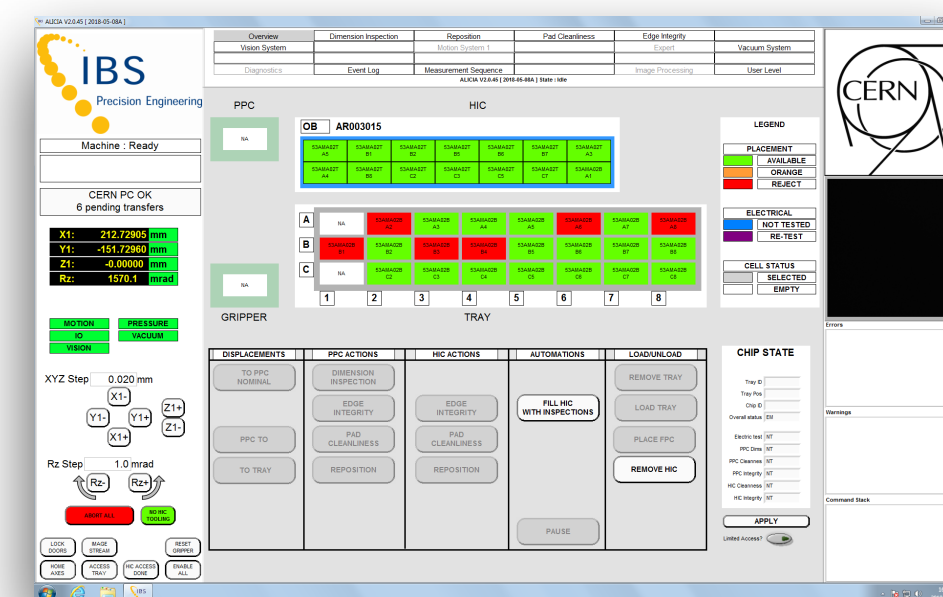
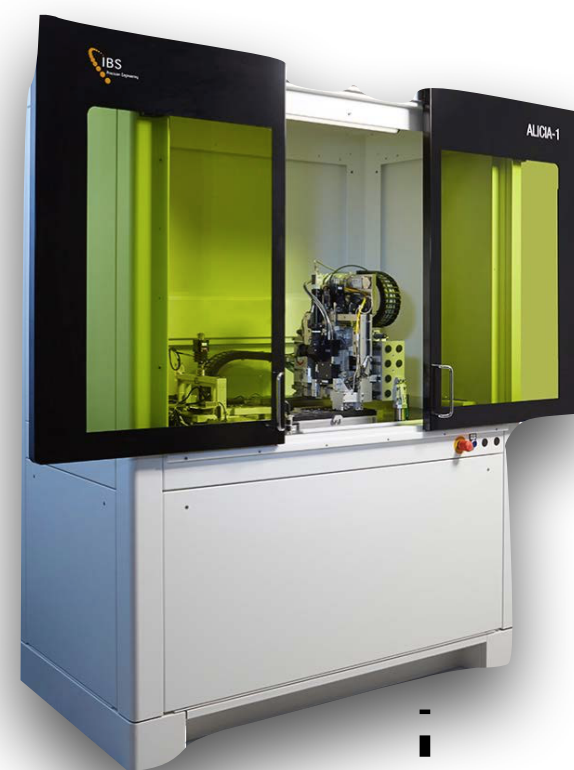
```

database
File Edit View Search Terminal Help
-> IBS is requesting the tray ID together with status
>>> PLEASE SCAN BARCODE <<<
>>> PLEASE SCAN BARCODE <<<
WARNING: unrecognised ID scanned: "T855181", try again!
-< tray ID is 53AMA14B
Please confirm that this tray is for HIC assembly of type: "OBS" by typing "OBS": OBS
OBS
  1  2  3  4  5  6  7  8
A | NK | NK | OK | OK | NK | OK | OK | OK |
+-----+
B | OK | NK | OK | OK | NK | OK | OK | NK |
+-----+
C |   | NK | OK | NK | NK | NK | NK | OK |
+-----+
Please confirm chip content by typing "OK" or anything else to cancel: OK
OK
<<< "TRID53AMA14B, A1:NK, A2:NK, A3:OK, A4:OK, A5:NK, A6:OK, A7:OK, A8:OK, B1:OK, B2:NK, B3:OK, B4:OK, B5:NK, B6:OK,
B7:OK, B8:NK, C1:EM, C2:NK, C3:OK, C4:NK, C5:NK, C6:NK, C7:NK, C8:OK"
>> Removed command <TRID> from command list
  
```



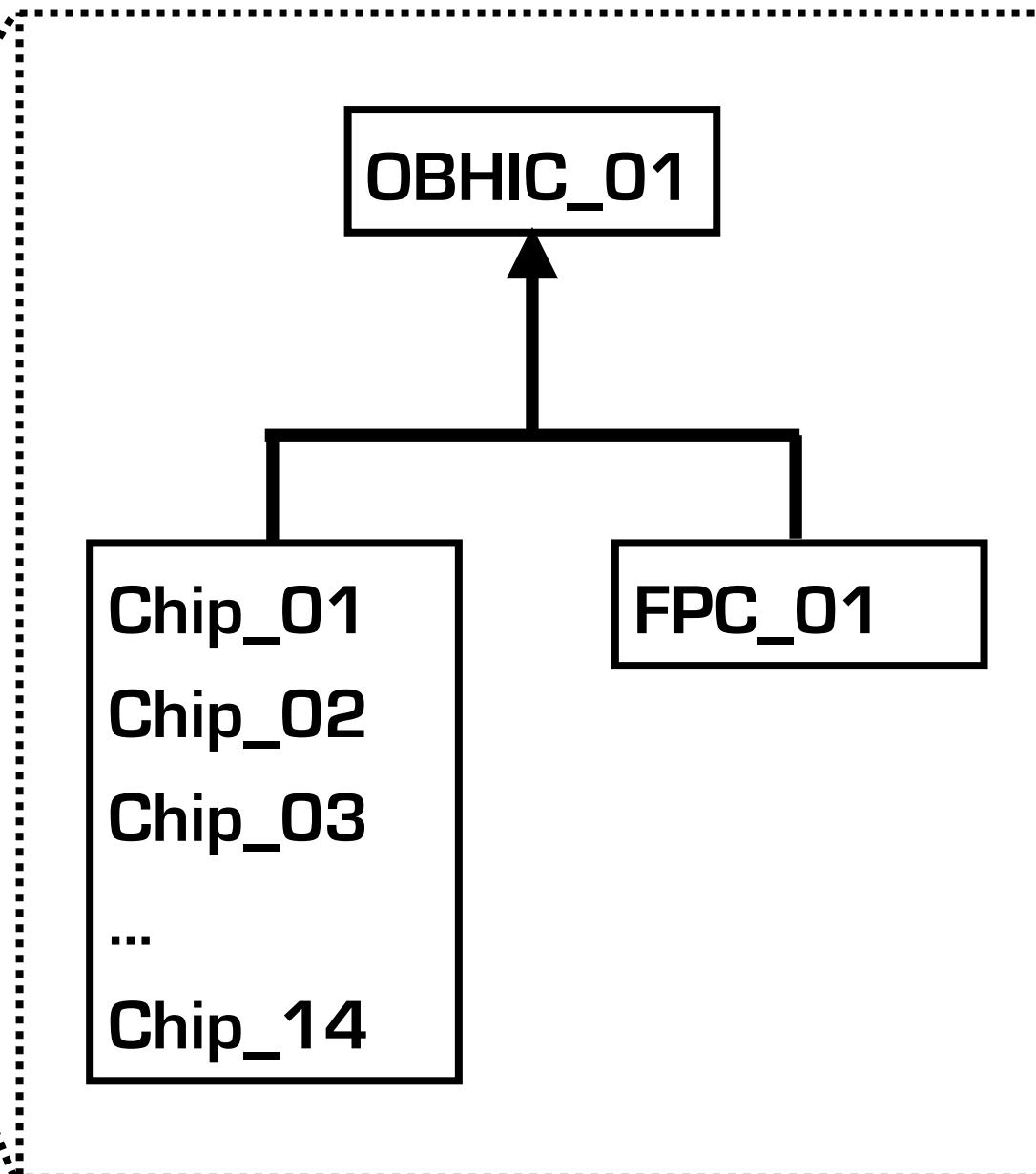
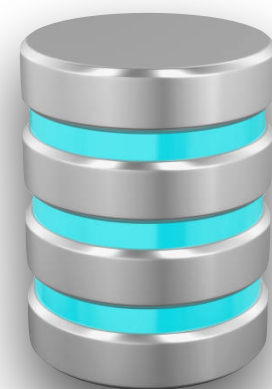
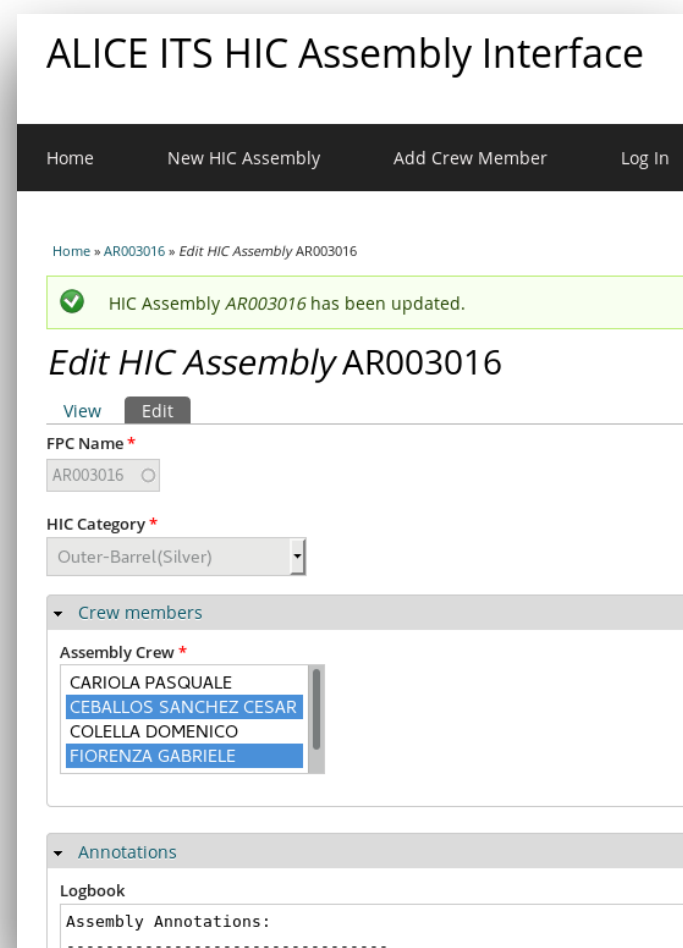
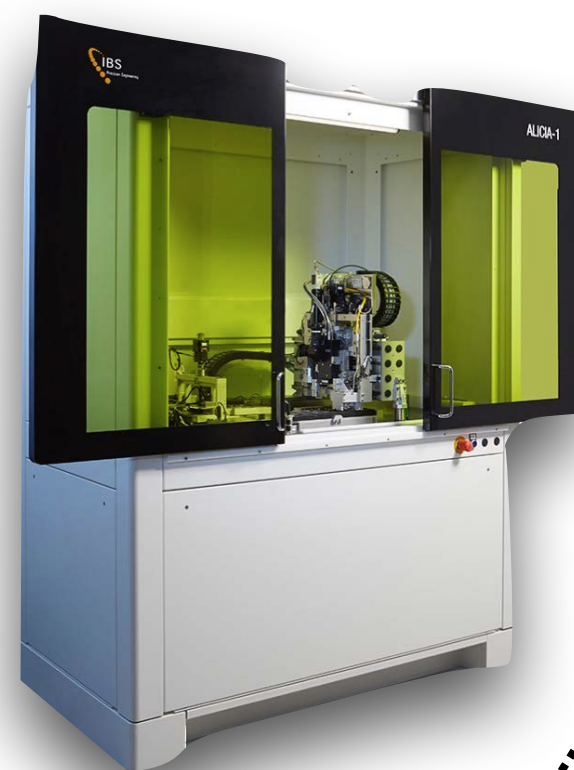
3. Creating the specific OBHIC Component

2. 'Place FPC' on the MAM (Interface and Physically)



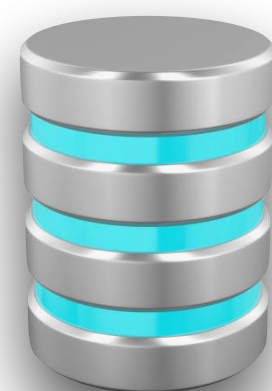
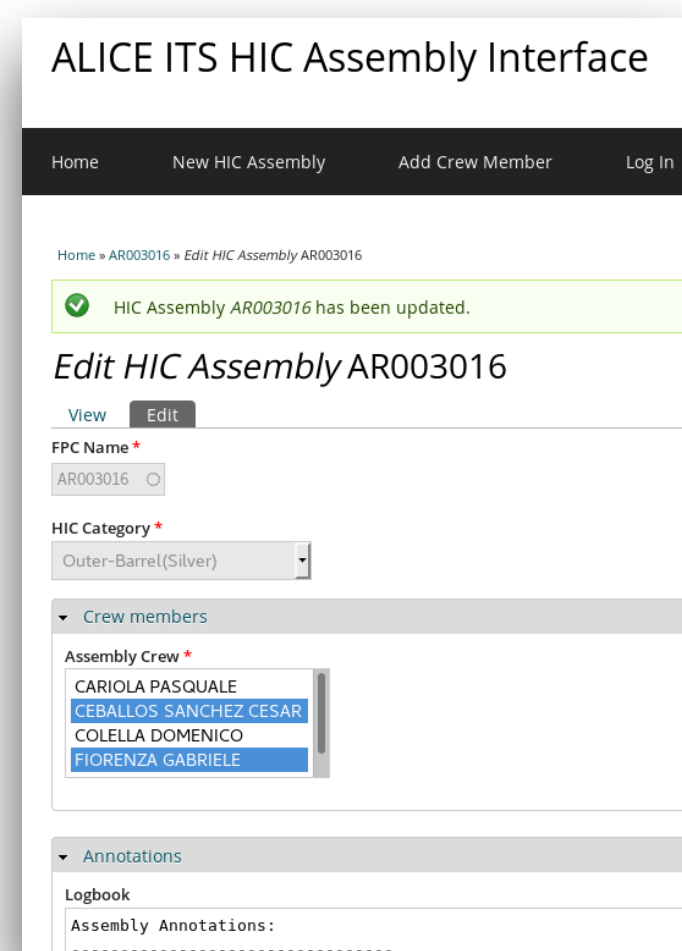
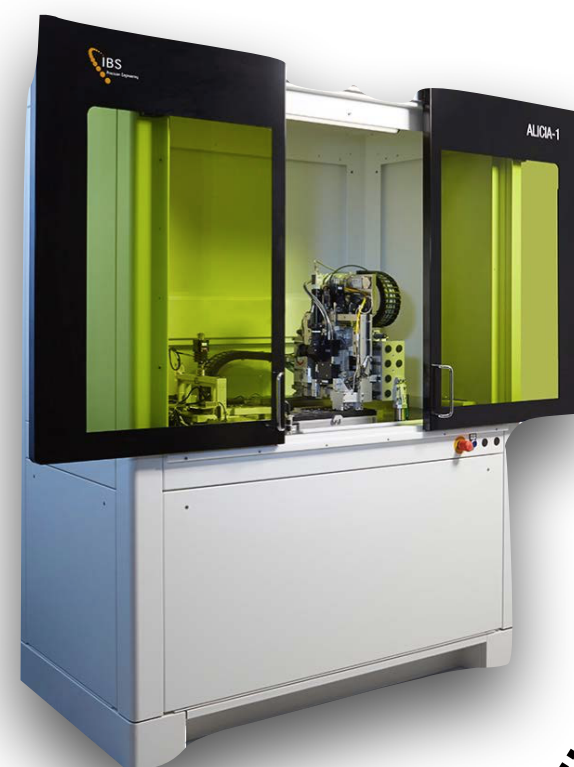
3. Creating the specific OBHIC Component

3. Submit the assembly to the DB
 A **new component** of type OB HIC Module is created in the DB with a unique Component ID, composed by the **specific FPC and Chips** used in the assembly process.



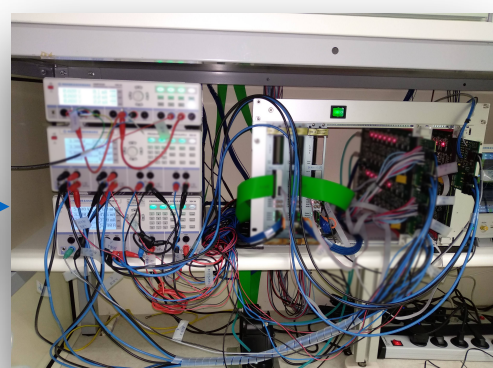
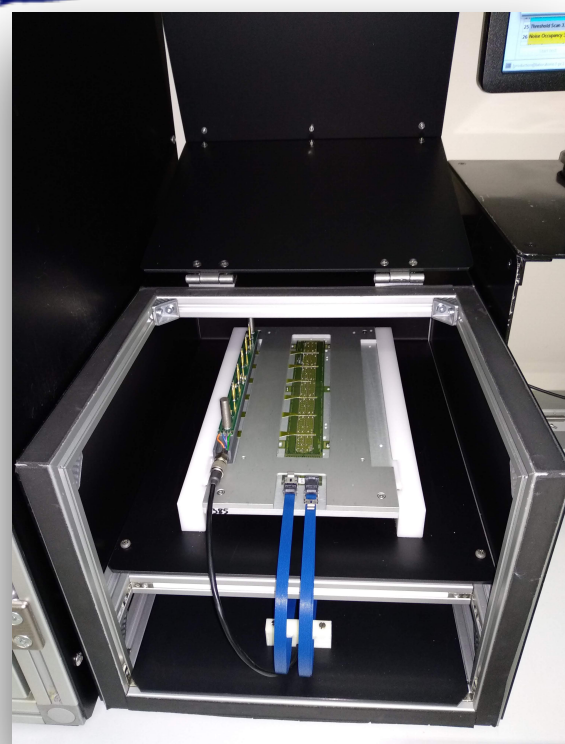
4. Creating the specific OBHIC Assembly Activity

A new activity of type **OB HIC Assembly** will be created on the DB [with a unique Activity Name] using as **Output Component** the OB HIC created on step 3 and as **Input Components** those already related to it in the same step 3.



Assembly of OBHIC_01

- Output Component
- Input Components
- Location
- Parameters Value
- Attachments
- Result
- Members



Actions

OB HIC Qualification Test

ITS Upgrade HIC and Stave Characterisation Software

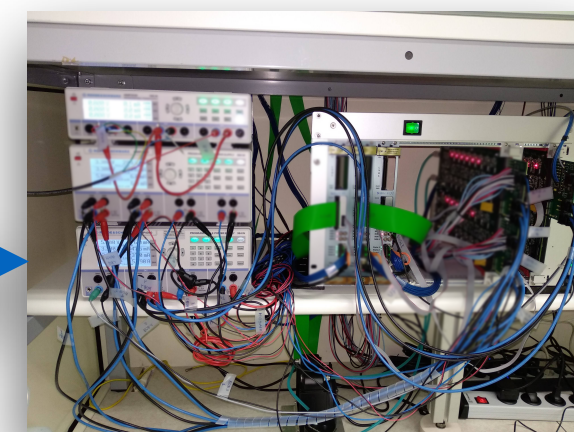
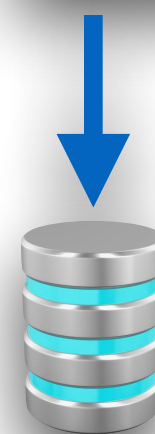
scan	status
1 Power Test	Done (n 1 min)
2 DcTri Measurement	Done (n 4 min)
3 Fifo Scan	Done (n 1 min)
4 Fifo Scan, V +10%	Done (n 1 min)
5 Fifo Scan, V -10%	Done (n 1 min)
6 Digital Scan BB 0	Done (n 0 min)
7 Digital Scan BB 0, V +10%	Done (n 0 min)
8 Digital Scan BB 0, V -10%	Done (n 0 min)
9 Digital White Frame BB 0	Done (n 0 min)
10 Threshold Scan 0.0 V	Done (n 7 min)
11 Tune VCASN Scan 0.0 V	Done (n 0 min)
12 Tune ITHR Scan 0.0 V	Done (n 0 min)
13 Threshold Scan 0.0 V	Done (n 7 min)
14 Noise Occupancy 0.0 V	Done (n 0 min)
15 Noise Occupancy 0.0 V	Done (n 0 min)
16 Digital Scan BB 1	Done (n 0 min)
17 Tune VCASN Scan 1.0 V	Done (n 0 min)
18 Tune ITHR Scan 1.0 V	Done (n 0 min)
19 Threshold Scan 1.0 V	Done (n 7 min)
20 Digital Scan BB 3	Done (n 0 min)
21 Digital White Frame BB 3	Done (n 0 min)
22 Threshold Scan 3.0 V	Done (n 7 min)
23 Tune VCASN Scan 3.0 V	Done (n 0 min)
24 Tune ITHR Scan 3.0 V	Done (n 0 min)
25 Threshold Scan 3.0 V	Done (n 7 min)
26 Noise Occupancy 3.0 V	Done (n 0 min)

Object Layout

OUTER BARRELHIC

Chp14 Chp13 Chp12 Chp11 Chp10 Chp9 Chp8
Chp7 Chp6 Chp5 Chp4 Chp3 Chp2 Chp1 Chp0

Start test Power Off



Applications Places Alpipe Testing

Actions

OB HIC Endurance Test

ITS Upgrade HIC and Stave Characterisation Software

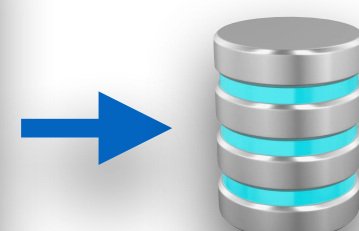
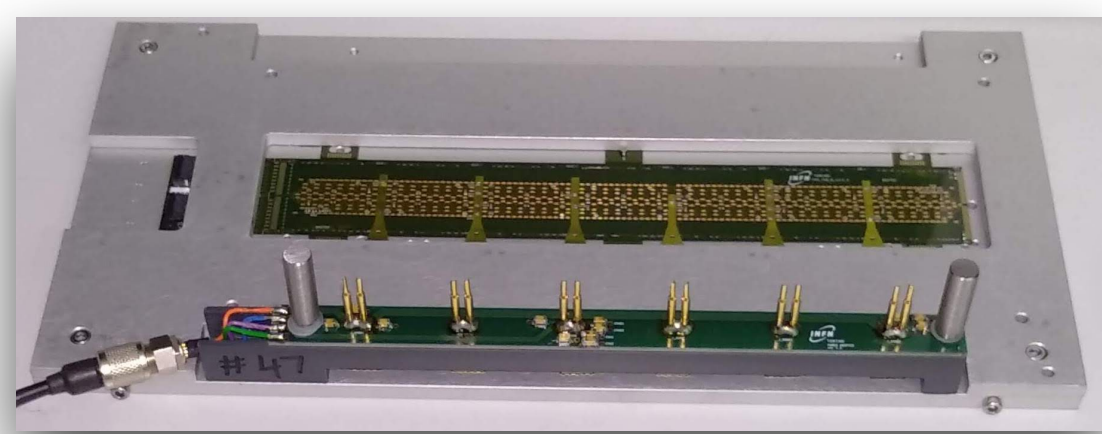
scan	status
1 Fifo Scan	Done (n 22 min)
2 Endurance Cycle	Running 0
3 Endurance Cycle	Waiting
4 Endurance Cycle	Waiting
5 Endurance Cycle	Waiting
6 Endurance Cycle	Waiting
7 Endurance Cycle	Waiting
8 Endurance Cycle	Waiting
9 Endurance Cycle	Waiting
10 Endurance Cycle	Waiting
11 Endurance Cycle	Waiting

Object Layout

ENDURANCE BOX

HIC-AR0028 HIC-AR0029 HIC-AR0030 HIC-AL0028 HIC-AL0029
HIC-AR0031 HIC-AR0032 HIC-AR0033 HIC-AR0034 HIC-AL0031 HIC-AL0032

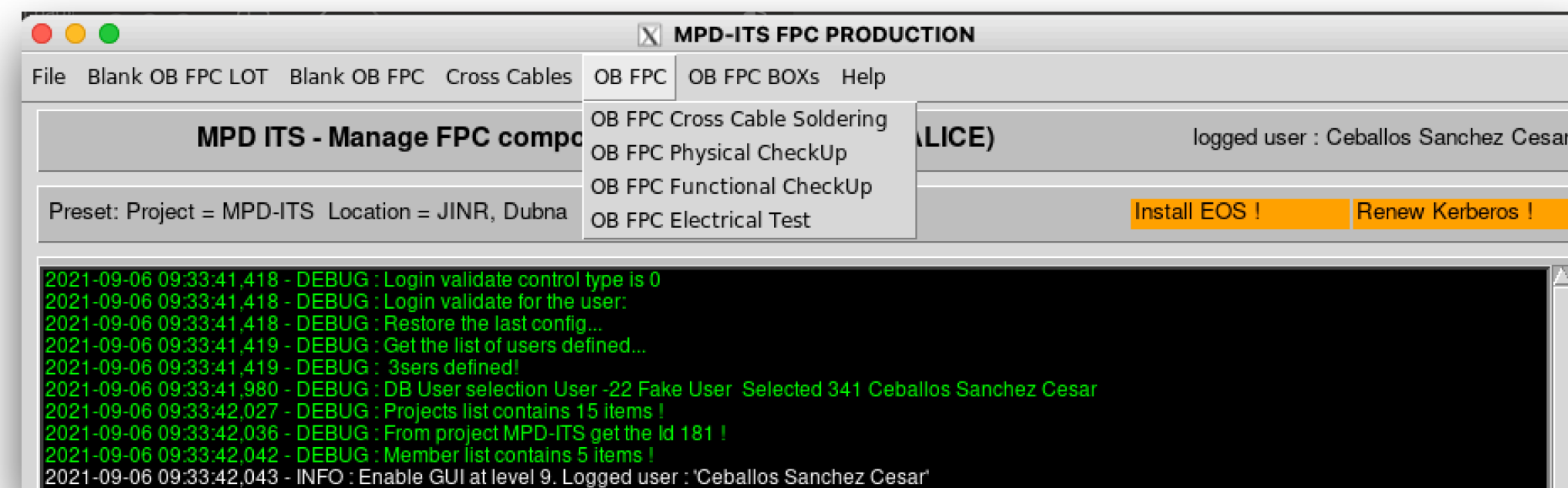
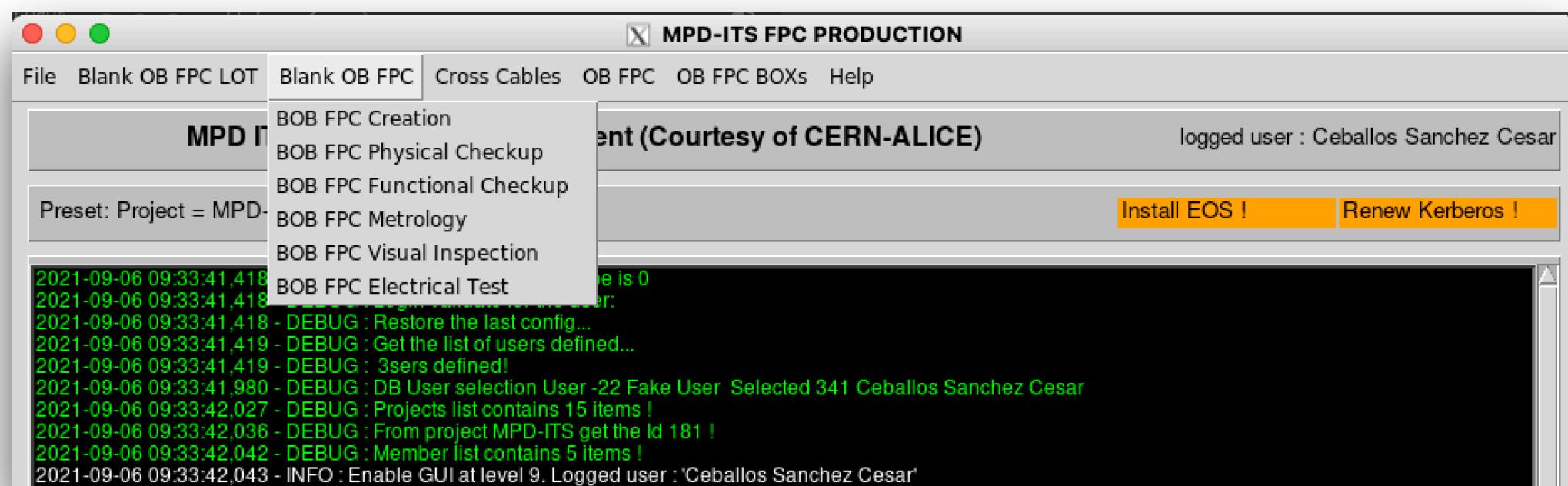
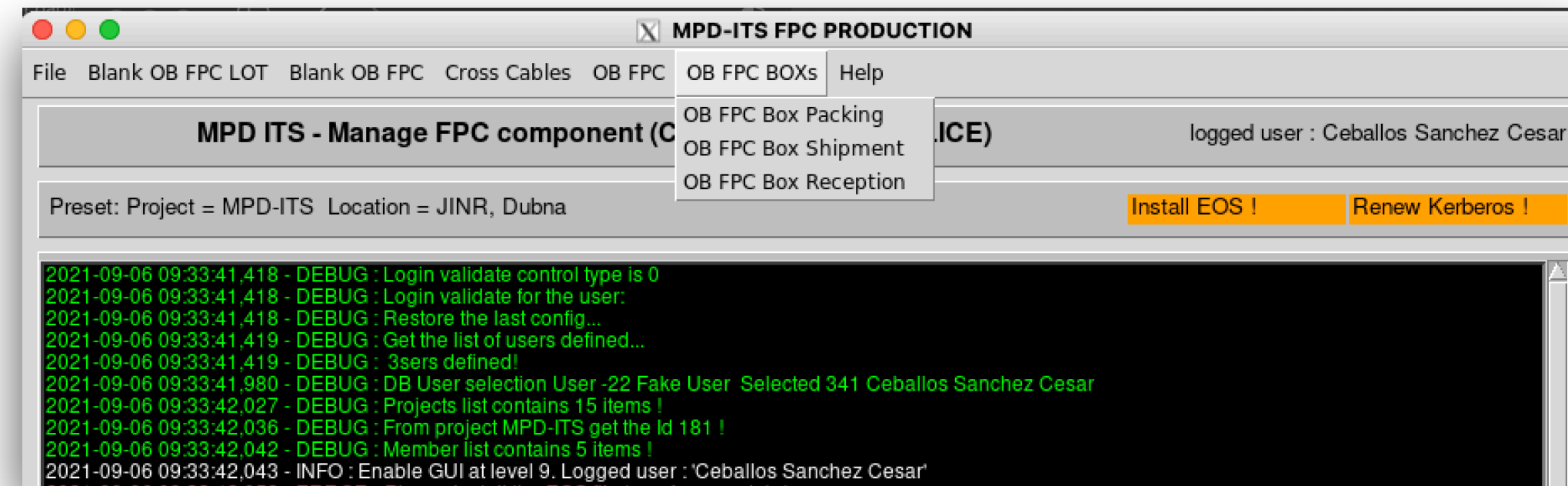
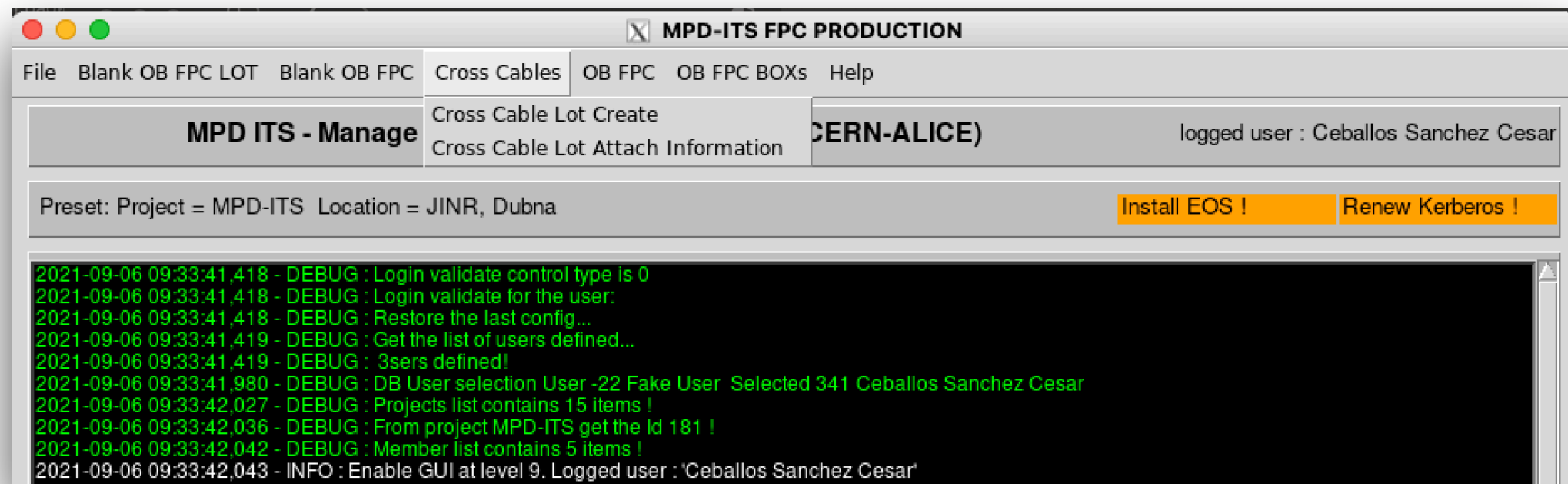
Start test Power Off





Easing the human interaction with the DB: FPC-DB-Software

MPD - ITS





MPD-ITS

