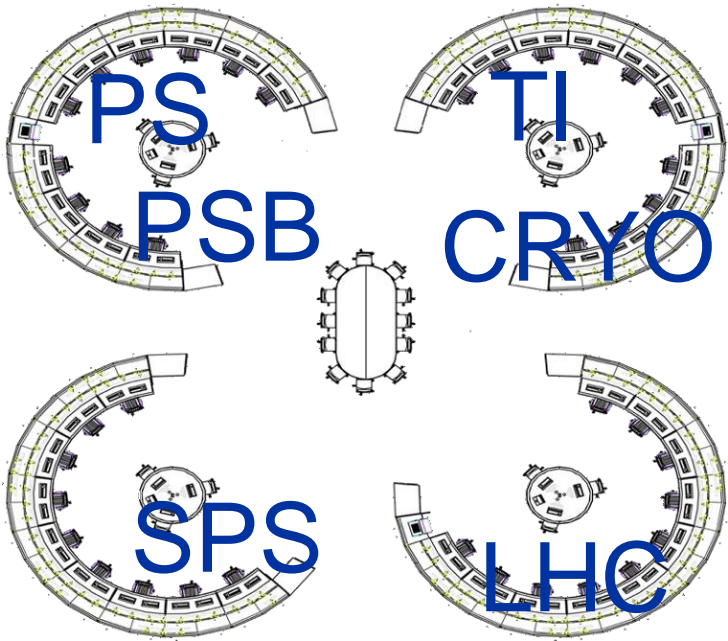


A control room with multiple computer monitors displaying data and graphs. The monitors are arranged in a curved desk, and the room has large windows in the background. The text "CCC - Technical Infrastructure 72201" is overlaid on the image.

CCC - *Technical Infrastructure* 72201



The Technical Infrastructure team never sleeps?

- Electricity
- Cooling & Ventilation
- ODH
- Gaz & Fire Detection
- Access control
- IT networks

>1 million
alarms !

>100 first line
interventions!

>100.000 calls
per year!

The screenshot displays a web-based interface for managing technical infrastructure events. At the top, there's a search bar and navigation icons. Below, a list of events is shown with columns for date, description, and type. A table below lists interventions with columns for Subject, Location, Bldg., Site, Contact, Creator, Start date, and End date. The interface includes various filters and search options.

Subject	Location	Bldg.	Site	Contact	Creator	Start date	End date
Working on (SFDIN-00273)	354	354	MEYRIN	VJULIEN (164291)	GLANGLOI	Mar 12, 2019 11:00	
Working on (FTDP-00738)	42	42	MEYRIN	AFREZE (161880)	CWETTON	Mar 12, 2019 10:25	
Working on (EBD106*86)	245	245	MEYRIN	PGALLAY (162720)	CWETTON	Mar 12, 2019 10:21	
consignation départ (EBD403/25)	UW250	2229	POINT 2 LHC/LEP	PVILLETO (168774)	CWETTON	Mar 12, 2019 09:48	
Working on (UAUK-00121, UAUD-00119)	USA15	3125	POINT 1 LHC/LEP	163994	CWETTON	Mar 12, 2019 09:31	
free 35, 34 et 32. 33 (UAUX-00023, UAPX-00001)	350	350	MEYRIN	FCOUDURI (165980)	CWETTON	Mar 12, 2019 09:27	
Working on (UACV3-00002, UACV-00001)	SMI2	3191	MEYRIN	JEPAYET (168780)	GLANGLOI	Mar 12, 2019 09:02	
Working on (YCA01=PM15)	PM15	2126	POINT 1 LHC/LEP	CPERROT (160518)	GLANGLOI	Mar 12, 2019 09:01	
Working on (UACV1-00143)	BA80	889	PREVESSIN	163875	CWETTON	Mar 12, 2019 09:01	
Working on (FJCR-00052)	865	865	PREVESSIN	SGENCE (166536)	CWETTON	Mar 12, 2019 08:59	
Working on (SFDIN-00302)	UX85	2828	POINT 8 LHC/LEP	ABOURACH (164885)	GLANGLOI	Mar 12, 2019 08:57	
ventil	274	274	MEYRIN	164002	CWETTON	Mar 12, 2019 08:53	
Working on	BC	874	PREVESSIN	SLEFEBVR (167101)	GLANGLOI	Mar 12, 2019 08:52	

TI role

- Monitor alarms for all technical infrastructure at CERN
- Record of ongoing works on CERN technical infrastructures
- On-call services to request repair and maintenance
- Co-ordinate intervention during major breakdowns
- Provide first-line interventions where possible (night shifts/weekends)
- 24/7 support – always someone available, 365 days per year.



Administrated by Jesper Nielsen

Access

ZORA - Piquet 1 ⚙️

- Thibaut Michael Lang 📞 160221 ⓘ

ZORA - Piquet 2 ⚙️

- Gregory Smith 📞 165011 ⓘ

CSA / Access Control / Video 📞 167707 ⚙️

Experts LHC ⚙️

- Vitor Rios 📞 168788 ⓘ
- Pablo Nicolas Gaviglio 📞 162325 ⓘ

Experts SPS ⚙️

- Didier Vaxelaire 📞 162498 ⓘ
- Vitor Rios 📞 168788 ⓘ

Experts PS

- Didier Chapuis
- Thibaut Michael Lang

[Flowchart for CSA interventions](#)

During normal days, please call the experts

[EN-AA escalation](#)

SY-EPC Piquet

SPS & Experimental Areas 📞 163668 ⚙️

CPS Injectors, Meyrin SVC, SPS SVC 📞 160391 ⚙️

LHC & LHC Experiments 📞 161919 ⚙️

[Repartition piquet -- Procedure SVC maneuver](#)

BE-ICS Controls piquet

Industrial Controls / PLCs, UNICOS 📞 164930 ⚙️

- Alexandros Foivos Kostopoulos 📞 165866 ⓘ

[BE-CSS Best effort for TIM issues.](#)

HSE-ENV Responsibles

Environmental Responsibles ⚙️

- Andre Dziewa 📞 164881 ⓘ
- Sabrina Schadegg 📞 167033 ⓘ
- Sonja Kleiner 📞 164163 ⓘ
- Michela Alessi 📞 165260 ⓘ

info-ts-pollution@cern.ch

SCE Piquet

Electricite: Piquet niveau 1 📞 169090 ⚙️

HVAC/Chaufferie/Sanitaires 📞 169000 ⚙️

HVAC/Chaufferie/Sanitaires: Niveau 2 📞 169001 ⚙️

EN-EL Responsibles (08h-12h / 13h-16h)

LHC1 - LHC1.8 ⚙️

- Patrick Villeton Pachot 📞 168774 ⓘ
- Adrien Noel Grinand 📞 161720 ⓘ

LHC2 ⚙️

- Jean Juillard 📞 163750 ⓘ
- Michael Simon Conway 📞 167875 ⓘ

LHC3 - LHC4 ⚙️

- Juliano Leonardo Perret 📞 168693 ⓘ
- Marcin Bartosz Szewczyk 📞 169843 ⓘ

LHC5 - LHC6 ⚙️

- David Robert Di Lazzaro 📞 162951 ⓘ
- Andy Jose Nicolas Harny 📞 164774 ⓘ

BE - 400kV - 66kV ⚙️

- Michael Simon Conway 📞 167875 ⓘ
- Patrick Villeton Pachot 📞 168774 ⓘ

ME59 & West Area ⚙️

- Jean Juillard 📞 163750 ⓘ
- Remy Grimand 📞 164906 ⓘ

ME9, ME10 & Admin ⚙️

- Jean Juillard 📞 163750 ⓘ
- Patrick Villeton Pachot 📞 168774 ⓘ

Prevessin, CCC, BE91 ⚙️

- Michael Simon Conway 📞 167875 ⓘ
- Jean Juillard 📞 163750 ⓘ

Meyrin: PS & 513 ⚙️

- Denis Ribiolet 📞 169841 ⓘ
- Stephane Delarue 📞 161828 ⓘ

North Area ⚙️

- Marcin Bartosz Szewczyk 📞 169843 ⓘ
- David Robert Di Lazzaro 📞 162951 ⓘ

EN-EL Piquet (16h-08h / 12h-13h)

OP Niveau 1 Pilote ⚙️

- Jean Juillard 📞 163750 ⓘ

OP Niveau 1 Accompagnateur ⚙️

- Giuseppe Cappai 📞 162296 ⓘ

EN-CV - PS, Meyrin

Day Piquet CBRE 1 ⚙️

- 📞 169466 ⚙️

Piquet HHO CBRE 1 📞 169458 ⚙️

Piquet HHO CBRE 2 📞 160712 ⚙️

STEP - 676: Piquet

EN-CV - SPS, Prevessin, ZN

Day Piquet DALKIA ⚙️

- Nabil El Bekri 📞 161799 ⓘ
- Debora De Sousa Barbosa 📞 161739 ⓘ
- Julien Dorian Ponsard 📞 168198 ⓘ

EN-CV Staff Piquet

LHC & DataCentres: Piquet staff 1 ⚙️

- Diogo Monteiro 📞 161983 ⓘ

LHC & DataCentres: Piquet staff 2 ⚙️

- Hassane Sabri 📞 166199 ⓘ

Detector Cooling ⚙️

- Alexandre Pierre Marion 📞 161390 ⓘ

DATACENTRES: "513, 613, 773, 924"

EN-CV: Control HHO

CV-CL piquet Assystem 📞 167707 ⚙️

OPC CV, PLCs CV, PCvue, WinCC flexible via Legacy / Equipement: C\$S-CONTROLE - MRC: CSCV EDM5 2655575

Fire / Gaz / Evac Piquet

Feu/Evacuation/Sprinkler Niv1 Day Piquet ⚙️

- Jean Nivarosa 📞 163732 ⓘ

Detection Gaz & SNIFFER: Day Piquet ⚙️

- Romain Bonnard 📞 166319 ⓘ

Detection Gaz & SNIFFER: Piquet CERN ⚙️

- Nicolas Broca 📞 168725 ⓘ

EN-EL Responsibles (08h-17h)

LHC 1 ⚙️

- Denis Dumas 📞 162142 ⓘ
- Dominique Piednoir 📞 165701 ⓘ

LHC 1.8 / LHC 2 ⚙️

- Dominique Piednoir 📞 165701 ⓘ
- Denis Dumas 📞 162142 ⓘ

LHC 3 / LHC 4 ⚙️

- Alexandre Pierre Marion 📞 161390 ⓘ
- Vincent Pittin 📞 161148 ⓘ

LHC 5 ⚙️

- Vincent Pittin 📞 161148 ⓘ
- Alexandre Pierre Marion 📞 161390 ⓘ

/ LHC 7 ⚙️

- nn Lupkins 📞 168862 ⓘ
- illes Yves Morard 📞 161171 ⓘ

illes Yves Morard ⚙️

- illes Yves Morard 📞 161171 ⓘ
- nn Lupkins 📞 168862 ⓘ

SPS, HiRadMat, SMI2 ⚙️

- Hassane Sabri 📞 166199 ⓘ
- Bill Bannister 📞 163495 ⓘ

ZONE NORD, AWAKE, Prevessin ⚙️

- Fred Juban 📞 165669 ⓘ
- Aziz Amamou 📞 168884 ⓘ

LINAC 4, Booster, 107 ⚙️

- Jean-Marie Vuaillet 📞 166690 ⓘ
- Alexandre Fournier 📞 161576 ⓘ

LINAC 3, LEIR, ISOLDE ⚙️

- Alexandre Fournier 📞 161576 ⓘ
- Jean-Marie Vuaillet 📞 166690 ⓘ

PS, TT2, ZONE EST ⚙️

- Guillaume Raimondi 📞 166106 ⓘ
- Nicolas Roget 📞 160955 ⓘ

513, 613, 773, 924, 186 ⚙️

- Ali Dridi 📞 166096 ⓘ
- Xavier Decrand 📞 166705 ⓘ

CTF3 ⚙️

- Alexandre Fournier 📞 161576 ⓘ
- Xavier Decrand 📞 166705 ⓘ
- Jean-Marie Vuaillet 📞 166690 ⓘ

176, 378 ⚙️

- Nicolas Roget 📞 160955 ⓘ
- Guillaume Raimondi 📞 166106 ⓘ

On-call and expert list

What are t

Any intervention equipment group

- Almost all Work
- ✓ Gives very g
- ✓ Legally requ
- ✓ Administrativ
- Can be “upgrad
- Publicly availab
- In the order of interventions b

EAM Light

Position UACV1-00218 | SAVE + NEW DELETE | [Icons]

Parent Position

Primary System: F\$FSVE-00869 Systeme ventilation tunnel SPS point 2

Location: BA2 869=BATIMENT AUXILIAIRE BA2

WORK ORDERS

Filter: All Open MTF This Eqp

Work Order	Equipment	Description	Status	Creation Date
33729412	UACV1-00218	DEFAULT VENTILATEUR BA2	RADA - Accepted - Awaiting Access	22-Jul-2024
33734084	UACV1-00218	DEFAULT VENTILATEUR BA2	RT - Completed - Awaiting CERN Validation	22-Jul-2024
33727865	UACV1-00218	DEF PULSION BA2 sur "Def debit" suite perte position clapet	RT - Completed - Awaiting CERN Validation	21-Jul-2024
33727806	UACV1-00218	DEFAULT VENTILATEUR BA2	RT - Completed - Awaiting CERN Validation	20-Jul-2024
33727838	UACV1-00218	DEFAULT VENTILATEUR BA2	RT - Completed - Awaiting CERN Validation	20-Jul-2024
33664188	UACV1-00218	Consolidation évacuation condensats	RADP - Accepted - Awaiting Parts	04-Jul-2024
33652949	UACV1-00218	Fuite importante d'eau condensat	TP - Completed - Paid	29-Jun-2024
33645337	UACV1-00218	Remplacement filtres	TP - Completed - Paid	27-Jun-2024
33641452	UACV1-00218	DEFAULT VEINE BASSE BA2	TP - Completed - Paid	26-Jun-2024
33639022	UACV1-00218	Présence d'eau au niveau caisson ventilation	TP - Completed - Paid	25-Jun-2024
33639176	UACV1-00218	Nettoyage préfiltres pulsion tunnel BA2	TP - Completed - Paid	25-Jun-2024
33443036	UACV1-00218	test delete me	CANC - Cancelled	15-May-2024
33435114	UACV1-00218	DEFAULT VENTILATEUR BA2	RT - Completed - Awaiting CERN Validation	11-May-2024
33399277	UACV1-00218	Suite tournée, préfiltres AN à nettoyer	TP - Completed - Paid	26-Apr-2024
33318047	UAR-03137	Réparation déflecteurs registre coupe feu	RADA - Accepted - Awaiting Access	08-Apr-2024
33301272	UACV1-00218	DEFAULT ARRET INSTALLATION BA2	TP - Completed - Paid	29-Mar-2024
33296960	UACV1-00218	DEFAULT VENTILATEUR BA2	TP - Completed - Paid	27-Mar-2024
33102722	UACV1-00218	DEFAULT VENTILATEUR BA2	RT - Completed - Awaiting CERN Validation	22-Feb-2024
33104291	UAR-03137	UACV1-00218 Controle fonctionnement clapet coup feu UVIN F03	TP - Completed - Paid	22-Feb-2024
33104372	UACV1-00218	DEFAULT VENTILATEUR BA2	RT - Completed - Awaiting CERN Validation	22-Feb-2024
33002932	UACV1-00218	DEFAULT VENTILATEUR BA2	RT - Completed - Awaiting CERN Validation	27-Jan-2024
32971526	UACV1-00218	Suite déclenchement clapet coupe feu, redémarrage pulsion	TP - Completed - Paid	19-Jan-2024
32772166	UACV1-00218	suite preventif sonde humidite tunnel a remplacer	TP - Completed - Paid	28-Nov-2023
32634020	UACV1-00218	Inventaire phase test ventilation complexe	TP - Completed - Paid	18-Oct-2023
32570557	UACV1-00218	Cable de puissance endommagé pulsion tunnel ba2	TP - Completed - Paid	02-Oct-2023
32546677	UACV1-00218	Préfiltres HS a remplacer	TP - Completed - Paid	27-Sep-2023
32538208	UACV1-00218	Installer ventilateurs provisoire tunnel SPS	CANC - Cancelled	22-Sep-2023
32445169	UACV1-00218	Changement filtre à prévoir.	T - Completed, Terminé	21-Aug-2023

ELEC Powering Pos

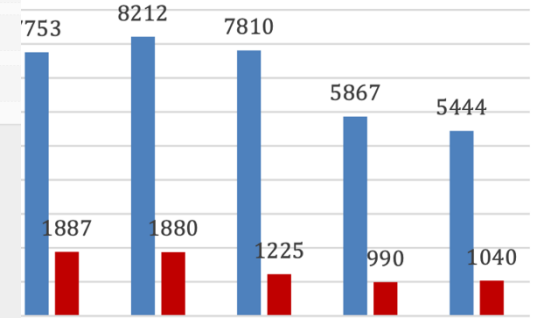
ELEC Powering Type

CUSTOM FIELDS

Détenteur (ID CERN)

Resp. Technique (ID CERN)

Année de Construction



Minor and Major Events

An incident on technical infrastructure that requires follow up.

- If the incident has some impact on operations or requires some internal follow-up by the operations group, a **“minor event”** is created.
- If the incident requires coordination of several groups, the event is flagged with a **“TIOC tag”** for the “TIOC meeting”
- If the incident caused a stop of an accelerator, facility, experiment then a **“major event”** is created. The major event is distributed to many people via automatic email.
- Going above a major event will require the **CERN crisis team**. The CERN crisis team can be activated via the TI desk, if approved by the crisis team lead.

How is a fault recorded?

- Accelerator stopped due to a technical fault = Major Event is created
- A major event has 1 or more “facility stop” attached.

Major fault / 25914 SEM2 Open

Sunday Nov 20, 2016 23:56 – Beam Loss -EMD2 18KV failure at point 2 electrical perturbation, weasel short!

Fault type	Fault - External	Creator	Paul Harris (BE-OP-TI)	Started	Nov 20, 2016 23:56
Equipment	E\$-SEQ2-ELECTRICITE	Last modifier	Ronan Steeve Ledru (BE-OP-TI)	TI informed	Nov 20, 2016 22:37
Group	TE-EPC	Source	PSEN , LASER et USER	Ended	
EDMS ID	1736155			Created	Nov 21, 2016 00:58
Description	22:37 TI received alarms for 18KV failure at point 2 and CV alarms through out CERN. Beam lost PS/SPS/LHC TI informed CCC of electrical fault.			Updated	Nov 27, 2016 17:37

Facility stops **5**

Source	Facility	Description	Begin	End	Duration	Status
eLogbook	PS	Power glitch	Nov 20, 2016 22:37	Nov 20, 2016 23:32	55m 6s	Run
eLogbook	LHC	18kV lost at P2	Nov 20, 2016 22:37	Nov 21, 2016 00:10	1h 33m 11s	Run
eLogbook	Booster	Power Glitch	Nov 20, 2016 22:38	Nov 20, 2016 22:59	20m 52s	Run
eLogbook	LINAC	power glitch	Nov 20, 2016 22:47	Nov 20, 2016 23:13	25m 24s	Run
eLogbook	SPS	Power transformer point 2	Nov 20, 2016 23:03	Nov 20, 2016 23:26	22m 38s	Run

Are Major Events followed up?

- All Major Events are presented during the weekly TIOC meeting
- A report is made by each group involved.

The “responsible group”

“Users” impacted

Major fault 25914 SEM2 Open

Sunday Nov 20, 2016 23:56 – Beam Loss -EMD2 18KV failure at point 2 electrical perturbation, weasel short!

Fault type	Fault - External	Group	TE-EPC	Started	Nov 20, 2016 23:56
Equipment	E\$-SEQ2-ELECTRICITE	EDMS ID	1736155	TI informed	Nov 20, 2016 22:37

Description
22:37 TI received alarms for 18KV failure at point 2 and CV alarms through out CERN.
Beam lost PS/SPS/LHC
TI informed CCC of electrical fault.

Unit	Status	Input date
TE-EPC	Created	Nov 21, 2016 11:08

Description
The weasel caused a 3ph short-circuit on the busbars in the harmonic filter park SEF2 (feeder EMD204/2E). The fault tripped the SEPAM of the corresponding circuit breaker EMD204 of the harmonic

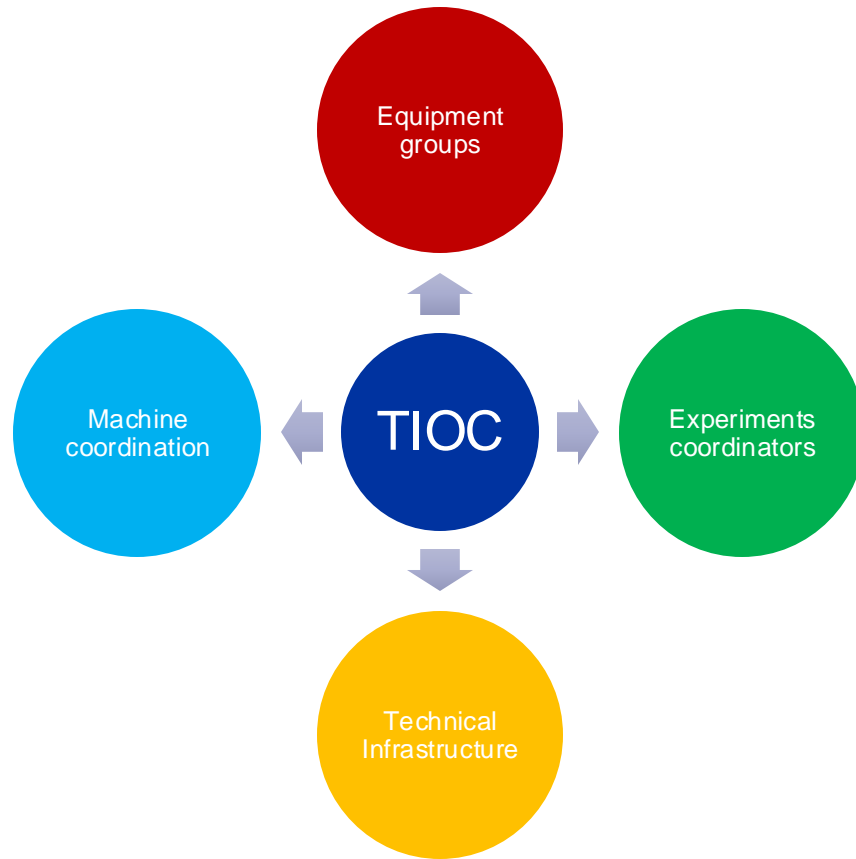
Unit	Status	Input date
EP-AID-DC	Created	Nov 22, 2016 23:49

Description
Pour info; au moment de la coupure l'équipe en salle de contrôle ont entendu un gros 'bang', type explosion. Pour ALICE cette coupure a eu pour conséquence l'arrêt des deux aimants, de tout les racks expérience en caverne, et le refroidissement (notamment eau mixte), comme lors de la coupure du 17.09 et 02.11. L'UPS (EBS106/2X) alimentant notre système d'acquisition et notre salle de contrôle est

Unit	Status	Input date
EN-EL	Completed	Dec 1, 2016 10:32

Description
Le 22/11/16 à 22h37min43s, une perturbation électrique allant jusqu'à -12.73% de la tension nominale a été perçue sur l'ensemble du CERN pendant 70ms. Cette perturbation a été causé par un court-circuit monophasé puis triphasé sur le filtre harmonique du LHC2.
Suite à ce court-circuit, le disjoncteur EMD204/2E (alimentation du parc filtre harmonique) a bien vue le défaut et c'est ouvert en 70ms.

Major events – Where are they follow up? What is the TIOC?



Monitor, record, analyses events related to the infrastructure systems serving the accelerator complex, the experiments and the computer centre

Recommend consolidations paths which would correct situations originating from the reduced maintenance, non-conformities or weaknesses of the technical infrastructure

Coordinate bigger technical interventions and incidents.

Thank you for your attention, any questions?



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