

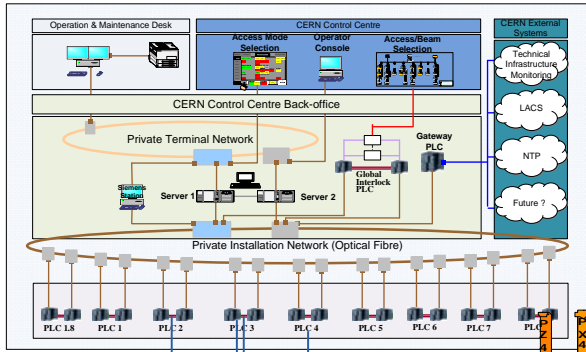
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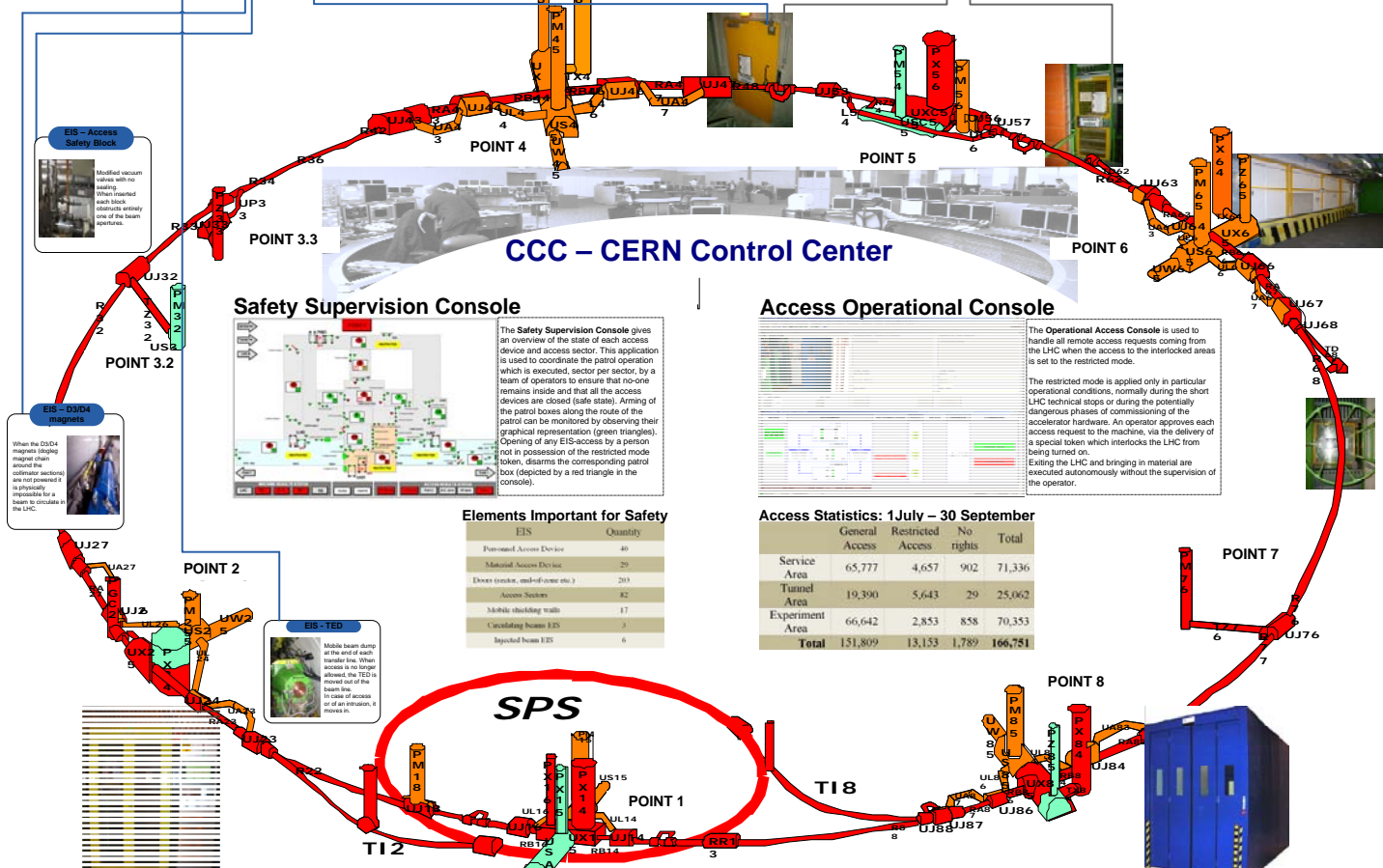
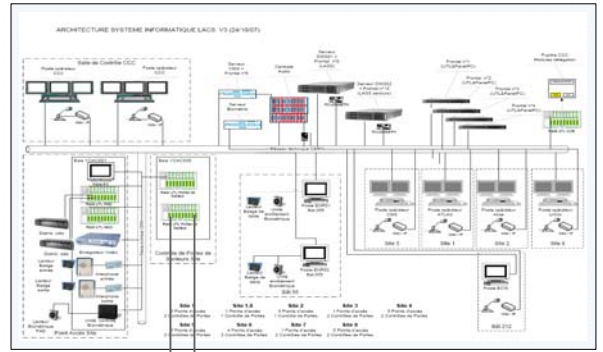
This paper describes the LHC Access System, built to protect the personnel working in the LHC from radiation hazards; the system's architecture and the experience gathered of commissioning, testing and using it. The system is made of two parts: the LHC Access Control System (LACS) and the LHC Access Safety System (LASS). Using redundant, fail-safe PLCs and a supplementary cabled loop the LASS guarantees the safety of the personnel in all events. Using industrial components, the LACS regulates the access to the tunnels and experimental areas by identifying users and checking their authorizations. It allows a remote or automatic operation of the access control equipment and restricts the number of users working simultaneously in the interlocked areas. Since the beginning of the operational phase, additional efforts and studies have been done to ensure the inviolability of this protection system by users not holding the required credentials. The design, procurement and installation of the entire system took more than 4 years and the commissioning phase lasted about 12 months. The paper presents as well the return of experience of the first 2 years of operations.

T. Ladzinski and F. Valentini for the Access Project Team \*

## LASS Architecture



## LACS Architecture



**Elements Important for Safety**

EIS	Quantity
Personnel Access Device	40
Material Access Device	25
Doors (control, mid-of-door etc.)	203
Access Sectors	82
Mobile shielding trails	17
Circulating beam EIS	2
Impacted beam EIS	6

**Access Statistics: 1 July - 30 September**

	General Access	Restricted Access	No rights	Total
Service Area	65,777	4,657	902	71,336
Tunnel Area	19,300	5,643	29	25,002
Experiment Area	66,642	2,853	858	70,353
<b>Total</b>	<b>151,809</b>	<b>13,153</b>	<b>1,789</b>	<b>166,751</b>

