



TS Workshop Archamps 2004

Thursday 6th May 2004



TS/CV/BE COOLING VENTILATION TECHNICAL DESIGN OFFICE

C. Martel – Cooling Ventilation - CERN TS/CV

AGENDA

Mandate
Activities
Organization
Methods
Documentation
Invoicing
Perspectives

MANDATE

Drafts
Documents for coordination
Tender documents
Execution documents for approval
Re-measurement documents
As built documents
Computers skills
Technical documentation
Archiving

30 contracts (0.1 to 25 MCHF)
> 100 MCHF of works



TS/CV sections
Coordination
LHC, PS, SPS, EXP, ...
CNGS, CLIC, etc
Contractors



ACTIVITIES

Ventilation

- Steel structures
- Ventilation
- Heating
- Air conditioning
- Smoke extraction
- Gas extraction



- Pressurization
- Dehumidification

LHC: 725 AHUs

ACTIVITIES

Hydraulics

Demineralized water

Chilled water

Mixte water

Used water

Raw water

Primary water

Cryo pipes

Fire water

1200 km



ACTIVITIES

Others



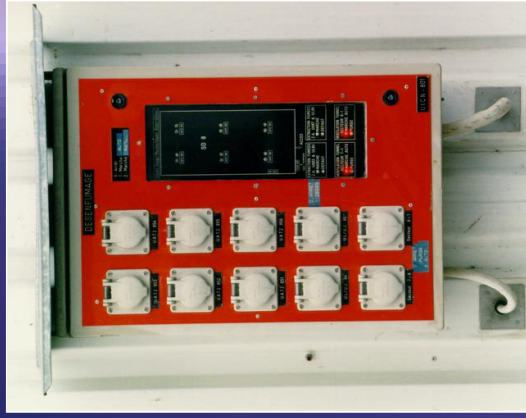
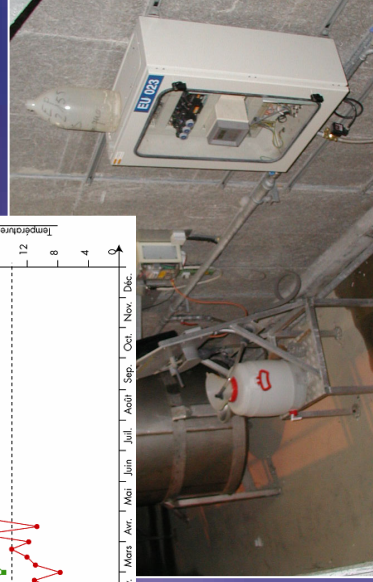
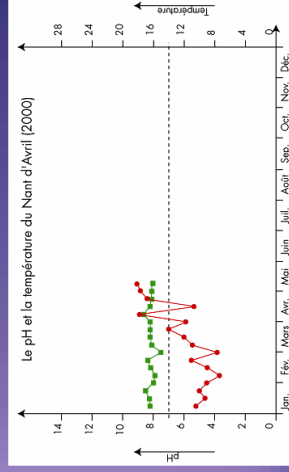
Compressed air

Waste

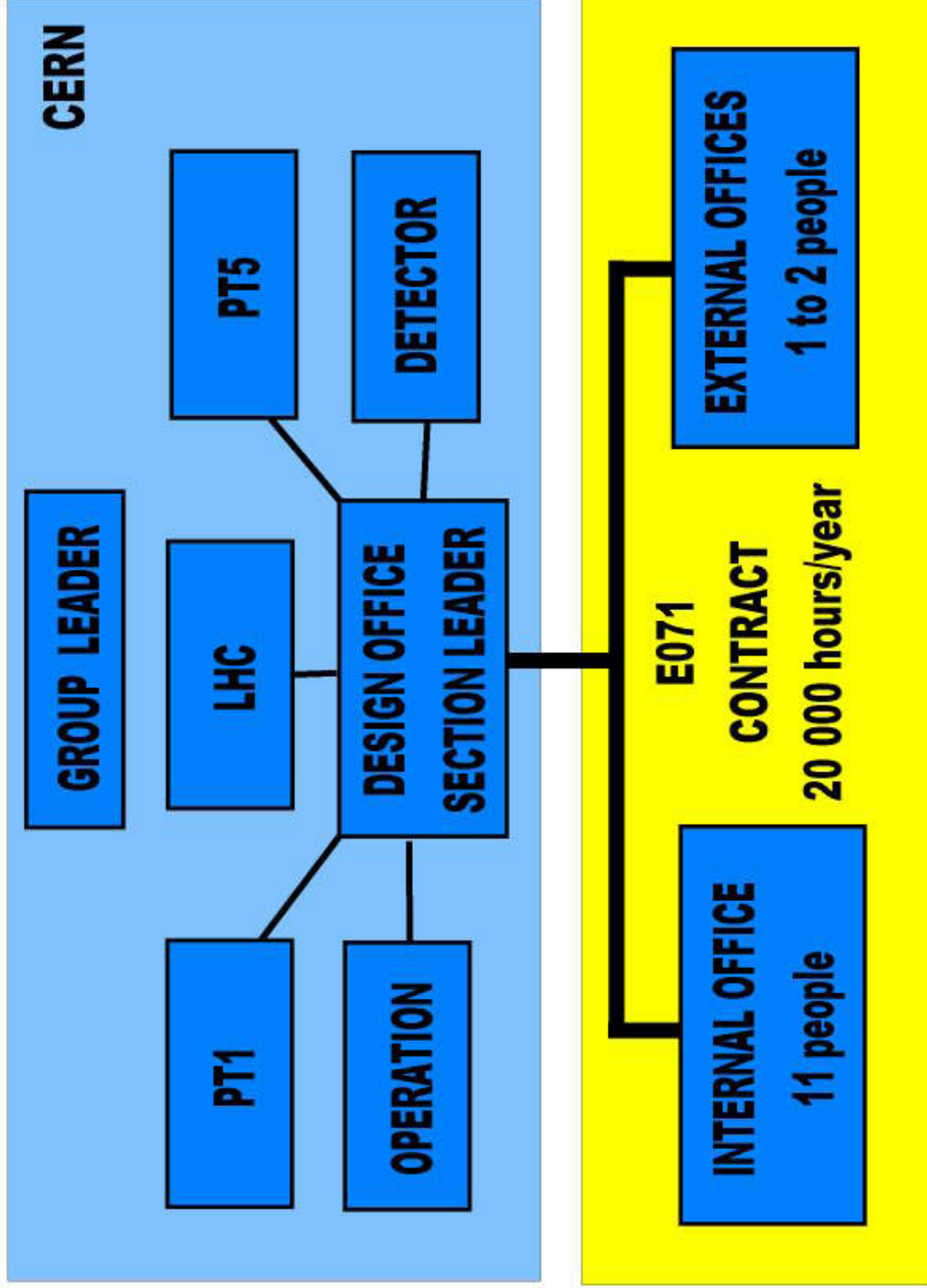
Firemen

Electricity

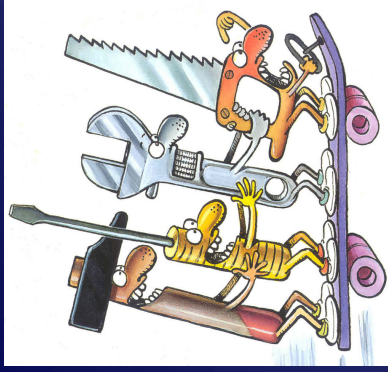
Control



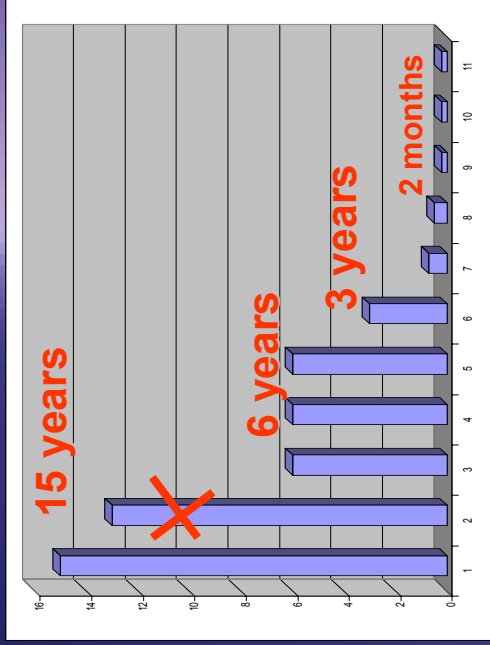
ORGANIZATION



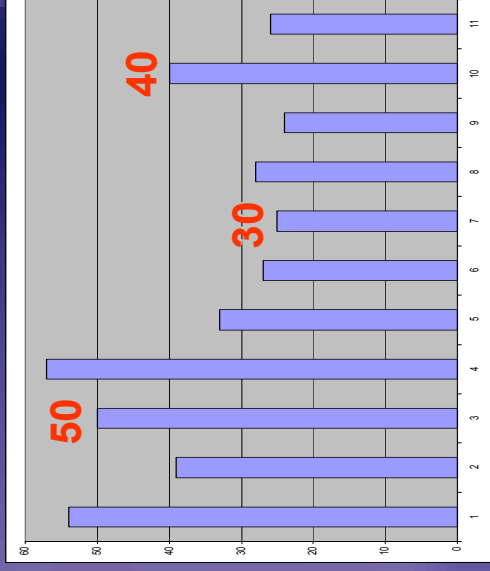
ORGANIZATION



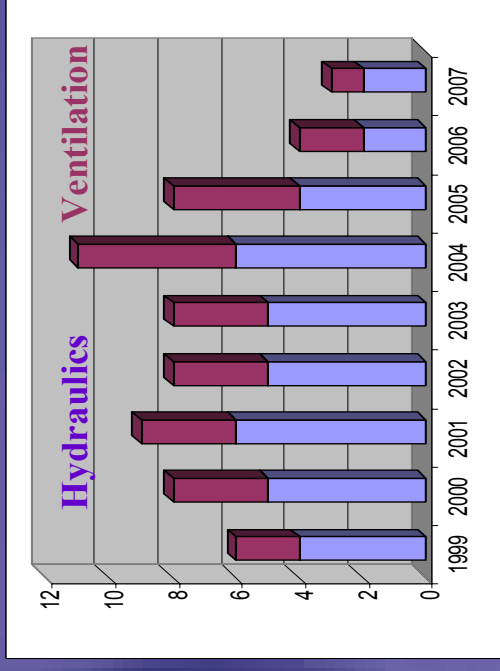
Internal Office : 11 persons today



Time at CERN



Age



Nb of people

METHODS

Internal or External

TE
 SERVICES - DÉPARTEMENT DES TRAVAUX
 45, rue de la Gare, Montréal, Québec H3T 1G6
 Téléphone : (514) 393-5151
 Télécopieur : (514) 393-5152
 Courriel : te@te.qc.ca

**FORMULAIRE DE
 DEMANDE DE TRAVAIL**

NOM : _____ PR. : _____
 ADRESSE : _____
 TEL. : _____

PROJET : _____

À RÉSOLUTION DE
 À RÉVISION
 À APPROBATION
 À ÉVALUATION

À ÉVALUATION
 À APPROBATION
 À RÉVISION
 À RÉSOLUTION

DATE DE DÉPÔT : _____
 DATE DE RÉCEPTION : _____

CLASSE : _____
 N° : _____

OK

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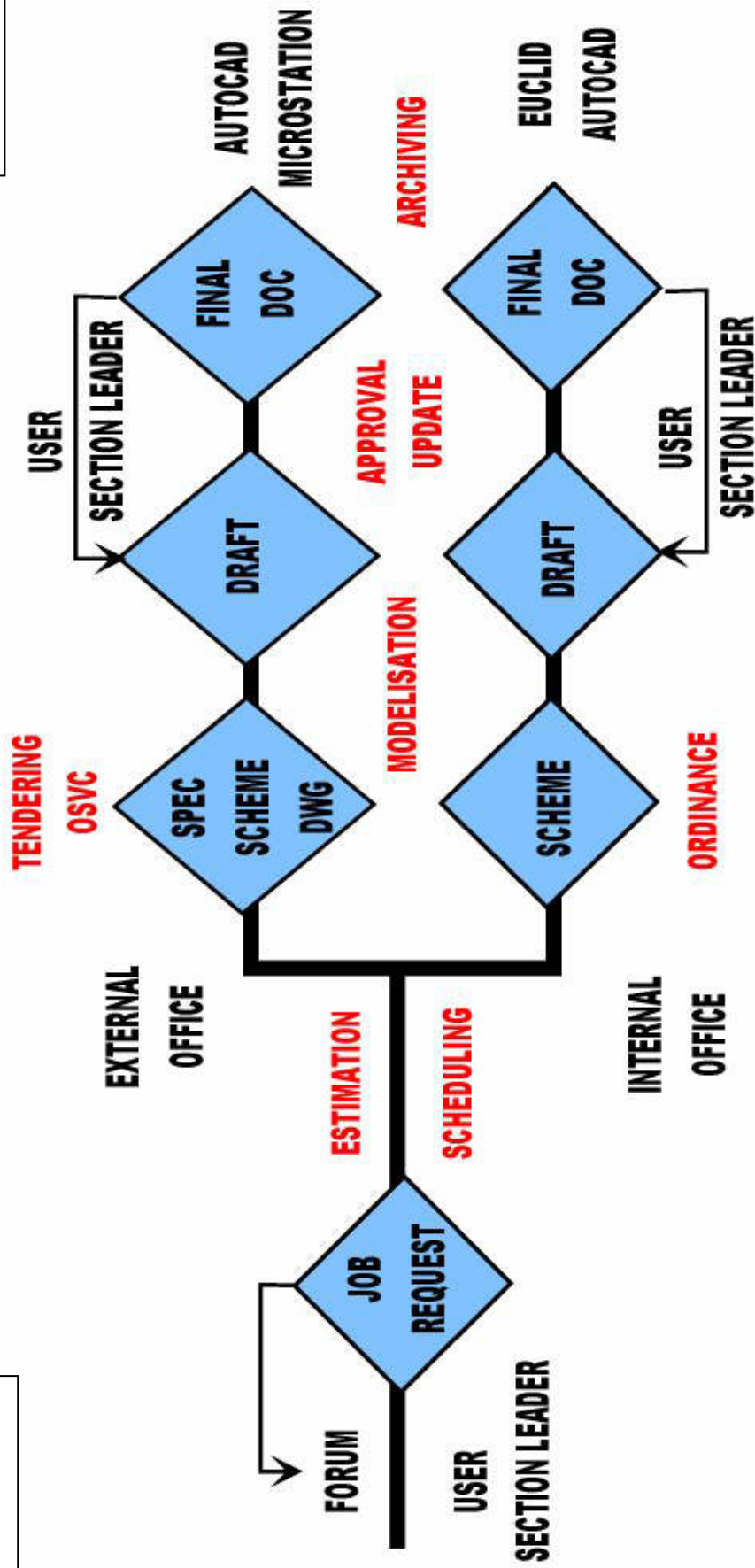
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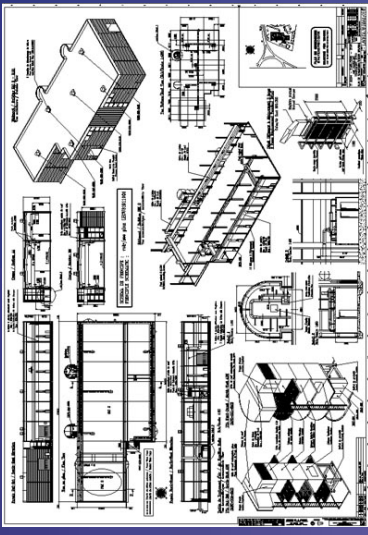
CLASSE : _____
 N° : _____

OK

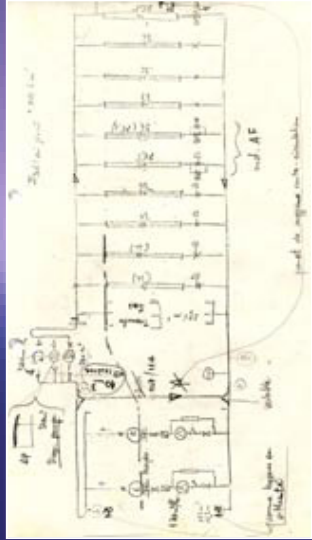
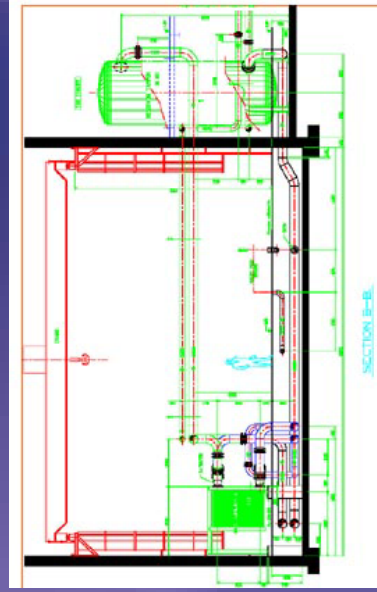
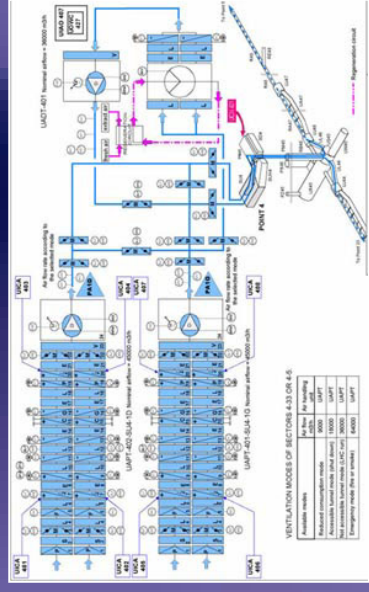
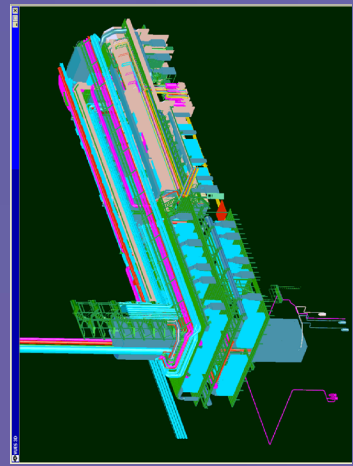
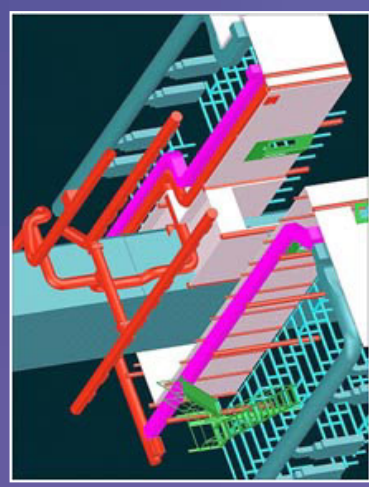


METHODS

Procedures



Standards - ICL – IZS – Exp. Areas coordinators





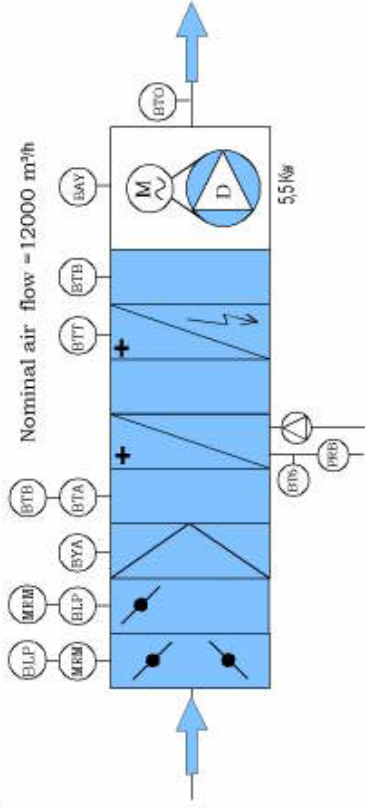
METHODS

Know-how

- Site and products knowledge
- Specific codification
- Standardization
- Costs optimization
- Simplicity and evolution
- Maintenance



1.1.1.53 UAVP type



LHC PARC

AHU + circuits: 725

PLCs: 200

Pipes: 1200 km

Pumps: 540

METHODS

Tools

CAD Software : EUCLID, AUTOCAD, DESIGNER,
TRACELEC

Database: EXCEL (invoicing, DQE, Price list, data)

Custom Software: calculation

Quality: CDD, EDMS, Euclid standards, MP5

International standards: ISO, EUROVENT

Specific standards: codification, PID, colors

DOCUMENTATION

Technical Documentation Suppliers



DEMONSTRATION, FORUM NOTES CATALOGUES UPDATE

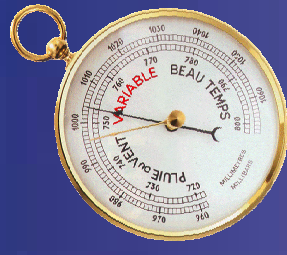
DOCUMENTATION

Archiving



DATABASE – CODIFICATION- LOCATION

PERSPECTIVES



Difficult historical background
Limit in the QUALITY-COST ratio

Stability

Know-how follow up

Documentation follow up

2 local staffs are foreseen

But 3 are needed for the follow up