

Faced with the many energy challenges but also the new regulations, the engineers of the group CETAB, responsible for the structure Design and amenities, control climate engineering and all fluids associated
 This department uses several skills, from studying to innovation: **HVAC, special fluids medical and industrial, plumbing, Fire Safety**, smoke extraction, sprinklers, Fire hose cabinet...
 We design **complex installations with thermal comfort, air handling, depollution clean rooms**, but also installations dedicated to renewable energy (Geothermal energy, solar energy, biomass boiler, heating network, CHP, wind power plants, heat pump with a ground coupled heat exchanger).

Expertise fields

- Hydraulic
- Heating
- Airconditioning/Refreshment
- Industrial refrigeration
- Ventilation/smoke extraction
- Fight against legionella and Water Quality
- Water treatment

Skills

- Thermal and cold units
- Climate atmosphere of treatment
- Dynamic Thermal Simulation (DTS)
- Ventilation/smoke extraction
- Production and distribution DHW Domestic Hot Water
- Medical fluids, industrial fluids
- Fire protection and sprinkling
- Thermal regulation RT 2005, RT 2012 and RT Ex
- Energy optimization

Services

- Feasibility study diagnosis
- Assistance with project management
- Project cost control
- Technical expertise
- Implementation support
- Implementation studies

Our tools

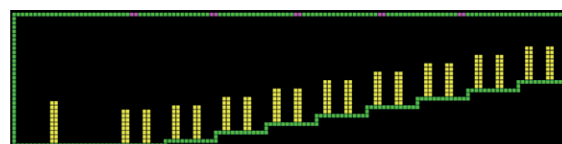
■ THE GENERAL SOFTWARE

- OFFICE: Office suite
- AUTOCAD, Revit: Drawing and technical design
- PROE: Planning
- SKETCHUP PRO: 3D Modeling
- PHOTOSHOP: Image Editing

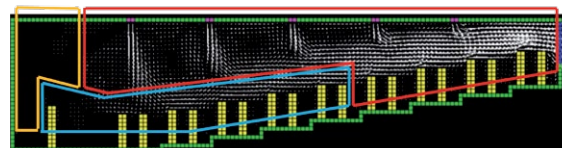
■ THE SOFTWARE

dedicated to proprietary HVAC

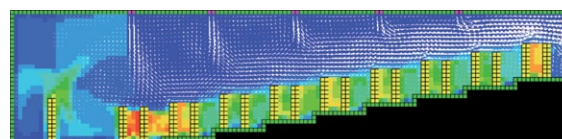
- ALCYONE: Input interface and 3D visualization of the building
- PLEIADES+COMFIE: Thermal and Dynamic Simulation-comfort and need-regulatory calculation
- TAS: Dynamic thermal simulations with humidity
- CLIMAWIN: regulatory calculations



■ Walls of the room ■ Air diffusing equipment: supply
 ■ Air diffusing equipment: return
 ■ People represented by a person or a warm object



■ Comfort zone to the factor air velocity
 ■ Discomfort to the factor air velocity
 ■ Volume with no mixing of air



Low High	21.83	23.65	25.47	27.28	29.10	30.92	32.74	34.55
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HVAC ENGINEERING

Main references

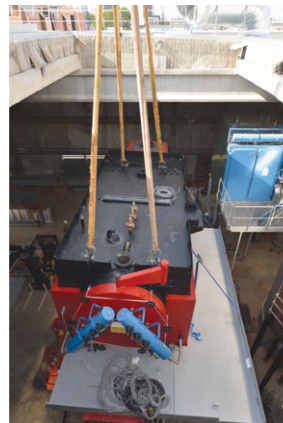
- Heating and cooling output
 - Recovery of energy from gray water Chartrons (33)
 - Biomass boiler Charles Perrons 5.5+3.5 MW (33)
 - Geothermal FORMANOIR Pessac (33)
 - ...
- Water heating systems
 - Heating networks Bassins à flot 10 km (33)
 - Heating networks Guéret 7 km (23)
 - Heating networks 1km Aero underground hospital group Pellegrin (33)
 - ...
- Energy efficiency & renewable energies
 - Feasibility production REN 5000 housing BORDEAUX
 - Energy independence in the second district road in Artigues
 - Espace La Médoquine in TALENCE (33)
 - ...
- Technical equipment, medical fluids
 - Hospital PERIGUEUX (24)
 - Hospital ANGOULEME (16)
 - Building MEROPA in PESSAC (33)
 - ...



■ Scanner - Hospital Périgueux



■ Hydro-storage 2*60m³ tank - © ENB



■ Placing wood boiler 2.5MW - © ENB

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