

# FRANCE AT CERN

11-14 MARCH 1986

The exhibition is organized under the auspices of the Scientific and Technical Mission of the MINISTÈRE DE LA RECHERCHE ET DE LA TECHNOLOGIE

1, rue Descartes, F-75231 PARIS CEDEX 05

in cooperation with the

INSTITUT NATIONAL DE PHYSIQUE NUCLÉAIRE ET DE PHYSIQUE DE PARTICULES (IN2P3)

20, rue Barbier-du-Mets, F-75640 PARIS CEDEX 13

the

INSTITUT DE RECHERCHE FONDAMENTALE DU COMMISSARIAT À L'ÉNERGIE ATOMIQUE

Centre d'Etudes Nucléaires de Saclay, F-91191 GIF-SUR-YVETTE

the

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10, avenue d'Iéna, F-75783 PARIS CEDEX 16, Tel.: 45 05 30 00, Telex: 615 080 F

the

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and the

POSTE D'EXPANSION ÉCONOMIQUE PRÈS L'AMBASSADE DE FRANCE À BERNE

Sulgeneckstrasse 37, CH-3007 BERNE, Tel.: 25 33 64, Telex: 32707 COMAT CH

## A. E. A.

[Electronics and Automation Workshops  
— a Thomson Telecom. subsidiary]

29, avenue Carnot — P.O. Box 22

F-91302 MASSY

Tel. 69 20 84 71/Telex 691 511

Managing Director: Samuel ZOBERMAN

Exports-Business Manager: S. ZOBERMAN

*Stabilized voltage supply systems. D.c.—d.c. converters.*

## ALSTHOM

Avenue des Trois-Chênes

F-90018 BELFORT Cédex

Tel. (84) 55 27 02/Telex 360 965

Managing Director: M. DESGEORGES

Exports-Business Manager: M. SABRIE

*Superconductors, a.c./d.c. applications; conventional magnets  
(accelerators, detectors).*

## BULL SEMS

36-38, rue de la Princesse

F-75430 LOUVECIENNES

Tel. 39 18 92 50/Telex 695 272

Managing Director: Georges GRUNBERG

*Bull Model SPS 9, 32 bit minicomputer for specialized scientific and  
technical purposes.*

## CABELTEL/FILOTEX

(Electric wiring and cables)

140-146, rue Eugène-Delacroix

F-91210 DRAVEIL

Tel. 69 42 40 90/Telex 691 666

Managing Director: Bernard DA

Exports-Business Manager: Philippe PETITCOLIN

*Wirings and cables for the nuclear industry, cable wiring, coaxial cables.*

## CGEE ALSTHOM

BP N° 1227 - 26, rue Arago.

F-69607 VILLEURBANNE Cédex

Tel. 78 53 02 86/Telex 370 418

Managing Director: M. BOISSEAU

Exports-Business Manager: M. PERROUD

*Automated equipment, networks and hardware*

**CHAMBER OF COMMERCE  
AND INDUSTRY FOR THE AIN**  
Interdepartmental Centre for Industrial Coordination  
(CICI)

Centre d'Aumard  
Avenue du Jura  
**F-01210 FERNEY-VOLTAIRE**  
Tel. 50 40 66 97/Telex none

Exports: M. PIHET

**C.M.E.E.**  
(Cables, assembly, electronics, electromechanics)

ZA les deux B  
Beligneux  
**F-01120 MONTLUEL**  
Tel. 78 06 15 71/Telex 380 157 (poste G 56)

Exports-Managing Director: M. AVRILLON

**COMTRAD**

13, chemin du Levant  
**F-01210 FERNEY-VOLTAIRE**  
Tel. 50 40 72 00/Telex none

**GERAL**

ZI route de Lyon  
**F-01300 BELLEY**  
Tel. 79 81 29 18/Telex 309 177

**GERTY**

13, chemin du Levant  
**F-01210 FERNEY-VOLTAIRE**  
Tel. 50 42 95 59/Telex 385 878

**SECAD**

Le Balmay  
**F-01430 MAILLAT**  
Tel. 74 75 73 75/Telex 375 806

Exports-Business Manager: M. DELAGNEAU

**CHAMBER OF COMMERCE  
AND INDUSTRY FOR ANNECY  
AND HAUTE-SAVOIE**

2, rue du Lac – P.O. Box 72  
**F-74011 ANNECY**  
Tel. 50 51 55 56/Telex 385 201

Head of Foreign Trade Dept.: Rémy LIEUPOZ

**METRIX**

Chemin de la Croix-Rouge – P.O. Box 30  
**F-74010 ANNECY Cédex**  
Tel. 50 52 81 02/Telex 385 131

Managing Director: Istvan SZOBOSZLAI  
Exports-Business Manager: Paul DUCHOUD

**SAREE**

(Sté Annecéenne de Réalisation d'Ensembles Electroniques)

ZAE des Glaisins  
**F-74000 ANNECY-LE-VIEUX**  
Tel. 50 66 10 46/Telex 385 201

Managing Director: Jean-Bernard DEPEE

**S. E. T.**

(Sulzer Electro Technique)

Avenue des Colombières  
**F-74490 SAINT-JEOIRE**  
Tel. 50 39 83 92/Telex 385 690

Managing Director: Jean SCHMIDT  
Exports-Business Manager: Denis AUPIAIS

presents the following local societies:

*LV equipment and electronic production units.*

*R & D work on processes and prototypes; manufacture of optical, opto-electronic and mechanical devices.*

*Electronics and electrical constructions. Complete R & D work for electronic systems and cubicles for automation equipment.*

*R & D work in mechanics, automated systems and special machines. Electronic board assembly. Automated testing of electronic boards. Fabrication of special coil-windings.*

*Automation systems for industry. Micro informatics. Robotics.*

*Regroupment of following societies:*

*Portable numeric analog multimeter, numeric equipment for tables and graphs, d.c.*

*Mutual positioning and soldering of surface-mounted components, wiring-up and soldering of components on printed circuits. Electronic and electromechanical wiring-up of wires and individual strands.*

*Semi-conductor apparatus and fitting; masking and light-exposure machines; spot inspection systems; sorting machines; laser marking.*

## **STAUBLI (SA des ETS)**

183, rue des Usines  
**F-74210 FAVERGES**  
Tel. 50 27 47 07/Telex 385 380

*Managing Director:* M. de GERMOND  
*Exports-Business Manager:* M. DESTAGNOL

## **TECHCI**

**(Technologie Circuits Imprimés)**

ZI de la Forêt  
**F-73240 SAINT-GENIX s/Guiers**  
Tel. 76 31 71 55/Telex 980 531

*Managing Director:* Marc AUBRY

## **RCI**

**(Rapide Circuits Imprimés)**

54, avenue de Bellevue  
**F-91210 DRAVEIL**  
Tel. 69 42 25 68/Telex 692 632

*Business Manager:* M. AUBRY

*Quick release unions for compressed air and liquid gases,  
remote-controlled unions, test intakes.*

*Professional printed circuits double-sided multilayer metallized apertures.*

*Printed circuits.*

## **CHAMBER OF COMMERCE AND INDUSTRY FOR SAINT-ETIENNE MONTBRISON**

36, rue de la Résistance  
**F-42021 SAINT-ETIENNE Cédex**  
Tel. 77 32 74 41/Telex 330 683

*Manager of External Relations:* Jacques BERLIER  
*Adviser on Technological Affairs:* Jean-Claude GARNIER

*Regroupment of following societies:*

## **AUTOMATISMES TRAITEMENTS NUMÉRIQUES**

Rue des Carrières  
**F-42270 SAINT-PRIEST-EN-JAREZ**  
Tel. 77 93 31 92/Telex none

*Managing Director:* Louis BOYER  
*Exports-Business Manager:* Louis BOYER

*Numeric sequence, micro computer.*

## **BERNARD ET BONNEFOND**

BP 19 - Terrenoire  
**F-42011 SAINT-ETIENNE**  
Tel. 77 25 84 22/Telex 300 944

*Exports-Business Manager:* Philippe BERNARD

*Variable voltage transformers.*

## **CELDUC**

Rue Ampère  
**F-42290 SORBIERS**  
Tel. 77 53 39 55/Telex 330 872

*Managing Director:* Michel GUICHARD  
*Exports-Business Manager:* Gaston de SCHRYVER

*Reed switches, transformers, electronic components.*

## **ENERTEC SCHLUMBERGER**

5, rue Daguerre  
**F-42030 SAINT-ETIENNE Cédex**  
Tel. 77 25 22 64/Telex 300 796

*Managing Director:* M. J. BRAULT

*Logical analyzer, 250 MHz oscilloscopes, 100 MHz oscilloscopes with  
memory.*

## **MANUFACTURES RÉUNIES et sa FILIALE TRACO**

Place Germain-Morel - P.O. Box 196  
**F-42408 SAINT-CHAMOND Cédex**  
Tel. 77 22 06 10/Telex 330 332

*Managing Director:* M. FLICHY

*Electric wiring and cables, instrumentation cables, electric telephone cords  
and extension cords; extensions of the "blindastic" type.*

## **RAMSES**

ZI de la Fléchette  
**F-42800 DARGOIRE**  
Tel. 77 75 15 59/Telex 307 471

*Manager:* M. RIVOIRE  
*Exports-Business Manager:* M. AUFRANC

## **SOCOMEL**

RN 82 – Ratarieux  
**F-42480 LA FOUILLOUSE**  
Tel. 77 74 08 64/Telex none

## **TECHNIQUES SURFACES**

ZI sud  
**F-42166 ANDREZIEUX-BOUTHEON**  
Tel. 77 36 56 27/Telex 900 762

*Managing Director:* Jacques Jean CAUBET  
*Exports-Business Manager:* Bernard MARLATTE

*Flexible workshop simulation software. Microprocessor-governed marking machines.*

*Projection screen, semi-automatic slide projector, applied electronics.*

*Soft and hard connectors for computers, junction boxes, winding facing, screens for electronic equipment caps.*

## **CIT-ALCATEL**

(Division VIDE et MÉCANIQUE)

33, rue Emeriau  
**F-75725 PARIS Cédex 15**  
Tel. 45 71 10 10/Telex 270 431

*Managing Director:* M. G. PEBEREAU  
*Exports-Business Manager:* Jean CAROZZI

*Vacuum pumps, turbomolecular pumps, manometers, helium leak detectors.*

## **CORECI**

(Industrial Inspection, Control and Regulation)

2/4, rue Desparmet  
**F-69008 LYON**  
Tel. 78 74 59 06/Telex 300 314

*Managing Director:* Dominique HANNEBELLE  
*Exports-Business Manager:* Patrice VERDIER

*Demonstration kits for HUMICOR, regulation panels of the MINICOR and TEN types, NUD and HUMICOR indication panels.*

## **C.S.E.E.**

(Signalling and Electrical Engineering)

17, place Etienne-Pernet  
**F-75738 PARIS Cédex 15**  
Tel. 45 33 74 44/Telex 203 926

*Managing Director:* Henri HENRIC

*Graphics terminals, free-standing work stations for CAE (Computer Aided Eng.) and CAD (Computer Aided Design); system and applied software. SG 2000 series UNIGRAPH graphics accessories.*

## **DATA SUD-SYSTEMES**

22, rue de Claret – P.O. Box 1067  
Immeuble Edouard VII  
**F-34007 MONTPELLIER**  
Tel. 67 27 32 55/Telex 490 425

*Managing Director:* Guy PAILLET

*VMEbus format electronic boards; interfaces, central units, memory banks.*

## **ELECTRONIQUE 2000**

8, rue René-Camphin  
**F-38600 FONTAINE**  
Tel. 67 26 43 27/Telex none

*Managing Director and*  
*Exports-Business Manager:* M. BERDANOS

*Storm detection apparatus, information transmission line protection modules, masks obtained by phototracing for the manufacture of printed circuits.*

## **ENERTEC-SCHLUMBERGER**

1, chemin de la Roseraie  
**F-67383 LINGOLSHEIM Cédex**  
Tel. 88 78 57 10/Telex 890 177

*Managing Director:* Guy BEZILLE  
*Exports-Business Manager:* Thierry CHRISTMANN

*Passivated implanted silicon detectors, NIM and CAMAC electronics, hyperpure germanium detectors.*

## EURORAD

14, rue Le-Nôtre  
MITTELHAUSBERGEN  
F-67200 STRASBOURG  
Tel. 88 56 15 63/Telex 880 400

Managing Director: C. MERLO

## GIXI

(Computer Sciences Engineering)  
Peri-Informatics Hardware Dept.

ZI Sud - 6, rue du Dr. A.-Schweitzer  
F-91420 MORANGIS  
Tel. 64 48 28 29/Telex 600 339

Managing Director: J. Pierre MEINADIER

## IN - INFORMATIQUE

P.O. Box N° 63  
F-78373 PLAISIR Cédex  
Tel. 30 55 81 81/Telex 699 302

Managing Director: Jacques MAILLET  
Exports-Business Manager: Guy DAUTREVAUX

## JOUCOMATIC

32, avenue Albert-1<sup>er</sup>  
P.O. Box 312  
F-92506 RUEIL-MALMAISON  
Tel. 47 49 03 60/Telex 203 661

## MATRA-DATAVISION

Rue de la Terre-de-Feu  
ZA de Courtabœuf - P.O. Box 246  
F-91944 LES ULIS Cédex  
Tel. 69 28 34 81/Telex 600 585

Managing Director: M. NICOLAIDIS  
Exports-Business Manager: M. TRIQUENAU

## MATRA-ELECTRONIQUE

Rue Ferdinand-Meunier  
F-60610 LA CROIX-SAINT-OUEN  
Tel. 44 41 56 66/Telex 140 329

Managing Director: Emile DURAND

## MERLIN GERIN

15, rue André-Theuriet  
F-74000 ANNECY  
Tel. 50 23 57 90/Telex 385 243

Agency Director: R. BARRIER

## MICROPROSS

Microinformatics Research Laboratory

Parc d'activités des Prés  
5, rue Denis-Papin  
F-59650 VILLENEUVE D'ASCQ  
Tel. 20 47 90 40/Telex 120Q 611

Managing Director: Vincent TELLIER  
Exports-Business Manager: Angus THIRLWELL

## OPTECTRON

ZA Courtabœuf - P.O. Box 535  
Avenue du Québec  
F-91946 LES ULIS  
Tel. 69 28 15 20/Telex 692 197

Managing Director: Bernard CHIRON

## O. S. L.

(Scientific and Laboratory Tooling)

Zone industrielle Secteur bleu N° 83  
F-06510 CARROS INDUSTRIES  
Tel. 93 29 11 09/Telex 470 284

Managing Director: André OLIVIER  
Exports-Business Manager: Udo BLAKENEGEL

Semiconductor radiation detectors, pocket radioactivity alarms, individual dosimeters.

Modular range of terminals, machines and stations, colour graphics; basic graphics software.

Computer applications in management: office management systems, teleprocessing, computer applications in instrumentation.

Servo systems, valve control devices, pneumatic parts for use in automation, programmable automated devices for industrial use.

CFAO EUCLID software. Series 50 colour graphics work stations. Use of EUCLID software in monitoring progress on LEP.

On-board electronic equipment, cables for printed circuits, complex cables and wiring. Thick layer hybrid circuits.

Inverters: demonstration of an ALPES 1000.

ROM 5000: universal programmable memory programmer; GANG programmer.

Plastic optical fibres, cables, fluorescent fibres, detectors, passive devices.

Modular mechanics.

## **PYRO-CONTRÔLE**

244, avenue Franklin-Roosevelt  
**F-69120 VAULX-EN-VELIN**  
Tel. 72 37 13 77/Telex 900 126

*Managing Director:* M. JACOBZONE  
*Exports-Business Manager:* Mlle CINQUIN

## **QUARTEX**

**(High Temperature Application)**

19, rue Poliveau  
**F-75005 PARIS**  
Tel. 43 31 95 15/Telex 206 679

*Managing Director:* Michel PEQUIGNOT  
*Exports-Business Manager:* JM. EPHRAIM

## **RIBER**

**(Division instruments)**

133, boulevard National – Cédex 231  
**F-92503 RUEIL-MALMAISON**  
Tel. 47 08 92 50/Telex 203 367

*Managing Director:* Michel CULLERON

## **R.T.C**

**La Radiotechnique Compelec**

130, avenue Ledru-Rollin  
**F-75540 PARIS Cédex 11**  
Tel. 43 38 80 00/Telex 680 495

*Managing Director:* M. BOUYER

## **SECMAI**

20, rue Paul-Vaillant-Couturier  
**F-94140 ALFORTVILLE**  
Tel. 43 75 49 22/Telex 231 415

*Managing Director:* François ORTH  
*Exports-Business Manager:* F. ORTH

## **SINTRA**

26, rue Malakoff  
**F-92600 ASNIÈRES**  
Tel. 47 90 65 72/Telex 610 718

*Managing Director:* JR. MARTIN  
*Exports-Business Manager:* Mlle KELLAFI

## **SOURIAU**

9-13, rue Galliéni  
**F-92103 BOULOGNE-BILLANCOURT**  
Tel. 46 09 92 00/Telex 250 918

*Managing Director:* Marcel LEROY  
*Exports-Business Manager:* Bertrand MATHIEU

## **TELMAT**

21, route d'Issenheim  
P.O. Box 12  
**F-68360 SOULTZ**  
Tel. 89 76 51 10/Telex 881 358

*Managing Director:* M. DUDKIEWICZ

## **THOMSON-CSF**

**(Division Tubes électroniques)**

38, rue Vauthier – P.O. Box 305  
**F-92102 BOULOGNE-BILLANCOURT Cédex**  
Tel. 46 04 81 75/Telex 200 772

*Director:* Jacques CAUMARTIN  
*Exports-Business Manager:* Gérard DUVOCELLE

## **THOMSON SEMI-CONDUCTEURS**

43, avenue de l'Europe  
**F-78140 VELIZY**  
Tel. 39 46 97 19/Telex 204 780

*Managing Director:* Carlo ZANNI  
*Exports-Business Manager:* Carlo ZANNI

*Standard platinum sonde detectors, standard sheath thermocouples with couplings for chemical and petrochemical processes.*

*Machined alumina parts, alumina/metal brazing, 'high pressure' alumina connectors.*

*UHV components and systems, surface analysis system, molecular jet epitaxy system.*

*Photomultipliers, streak camera, very wide-band CRTs, image intensifiers (for CRTs).*

*Layout, location and routing software for use with portable printed circuits on VAX 11, MICROVAX II.*

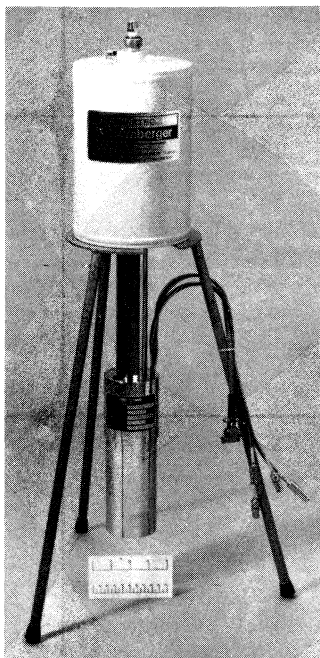
*DLX: hardware and software range, monoprocessor systems.*

*Specialized electric connectors for use in irradiated environments, tempered connectors and filters, optical fibre transmission systems.*

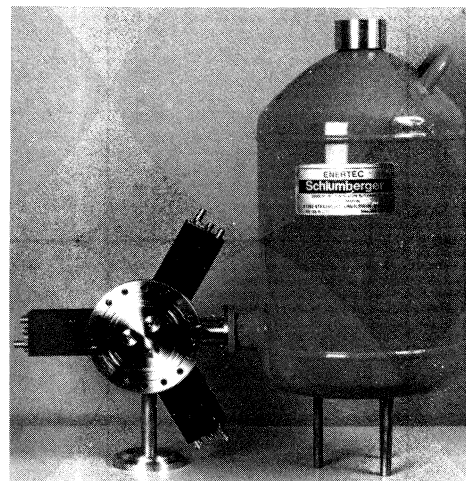
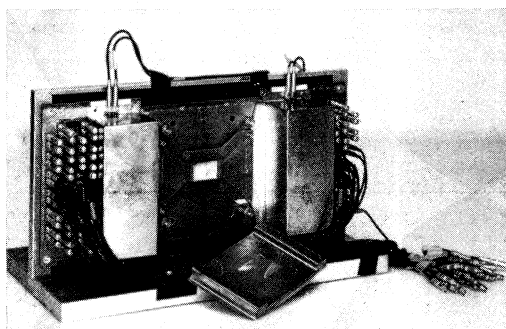
*Mini-computer (SM 90) and data display equipment (CUBI 7). Products: SM 90 c CUBI 7: real-times 3-D image synthesis system.*

*Professional electronic tubes and devices, klystrons for particle accelerators, photographic tubes, luminous image intensifiers, hyperfrequency windows.*

*Predisseminated networks, filters, interfaces, microsystems, shielding components, power transistors, thyristors.*



## SEMICONDUCTOR DETECTORS FOR NUCLEAR PHYSICS



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**Schlumberger**

### NUCLEAR INSTRUMENTATION DEPARTMENT

1, CHEMIN DE LA ROSERAIE  
67383 LINGOLSHEIM CEDEX - FRANCE  
Tél. 88.78.57.10 - Telex: 890.177 F

DIRECTION DES VENTES  
12, PLACE DES ETATS-UNIS - B.P. 620  
92542 MONTRouGE CEDEX  
Tél. 33-1-47.46.66.11 - Télex 631.779 F ENERMON

## MG-1

### PROCESSING POWER

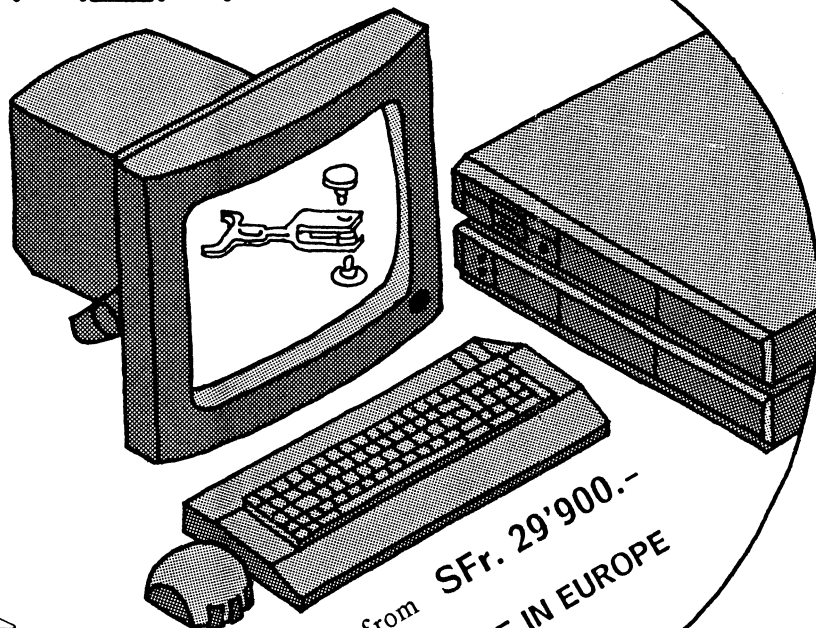
- 32 Bit
- Virtual memory
- Floating-point co-processor
- 1 Mb to 8 Mb physical memory
- 10 to 120 Mb Winchester disk
- 800 Kb floppy disk unit
- 17" Graphics Display 1024 x 800
- Ethernet (IEEE 802.3)
- IBM-PC Bus expansion

### SOFTWARE

- Unix 4.2 BSD
- Display Manager Window
- C, Fortran 77, Pascal
- Prolog, Lisp, GKS
- VT 100 emulator
- Ethernet (TCP/IP)
- CAD packages, 2D, 3D

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