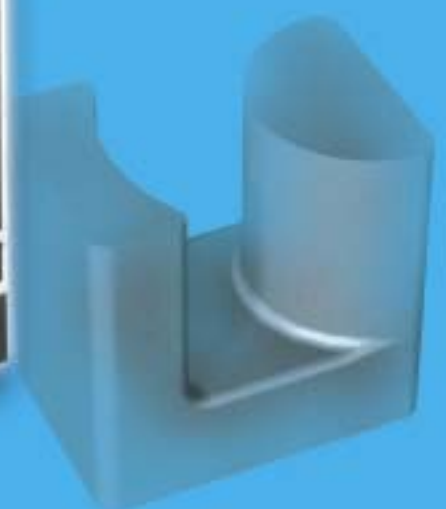


Electronic Engineering Department

Business
Profile



FERROXCUBE

A YAGEO COMPANY

Introduction

The Electronic Engineering Department (EED) is an experienced engineering group, which develops and produces computerized control systems for a.o. batch and continuous ovens. These projects are executed worldwide as turn-key projects.

Because of excellent know-how of combined thermal and atmosphere production processes, the EED

develops industrial control systems for processes such as ceramics and metal treatment, food storage and agricultural processes.

The EED also develops specialized measurement equipment for electromagnetic measurements as part of in-line process control or as end quality assurance.

Originally responsible for the innovation of equipment within Ferrocube (formerly Philips Components), the EED is since many years also supplier of control and measurement systems to many other customers worldwide with a strong emphasis on *quality, reliability and service*.

Experience

EED has significant credentials, with more than 30 years experience in computerized temperature and gas atmosphere control as well as measurement systems. Started in the early 70's with microprocessor-based computer controls for ferrite batch kilns, the EED has developed into a department with great knowledge of digital controls. The engineers of the EED are highly skilled and have experience throughout the complete field of industrial measurement and automation.

Activities :

- Development & design
- Assembly & production
- Installing on-site
- Commissioning
- Training (operators and service personnel)
- Service

These activities can be done separately or as a complete turn-key project, all in close cooperation with the customer.

Process fields	
Technical ceramics	heating, cooling (0 – 1800 °C)
	atmosphere control (0.001 % - 100 % O ₂)
	soft magnetic properties measurement (powerloss, saturation, permeability etc.)
	piezo-electric properties measurement (permittivity etc.)
	mechanical / hydraulic pressing control and process measurement
Crystal growth	Czochralski process
Glass (picture tubes)	heating, cooling, vacuum pumping control, pressing
Metal treatment	heating, cooling, vacuum, pressure, atmosphere control (0 – 1000 °C, near vacuum, NH ₃ , H ₂)
Food storage	atmosphere monitoring and control
Agriculture (greenhouse)	CO ₂ atmosphere control

Technology

EED provides sophisticated temperature and / or gas atmosphere control systems based on the latest technology :

- PLC Siemens Simatic S7-400 with profibus I/O
- Motorola VMEbus/PowerPC with profibus I/O technology
- PC technology

Such as :

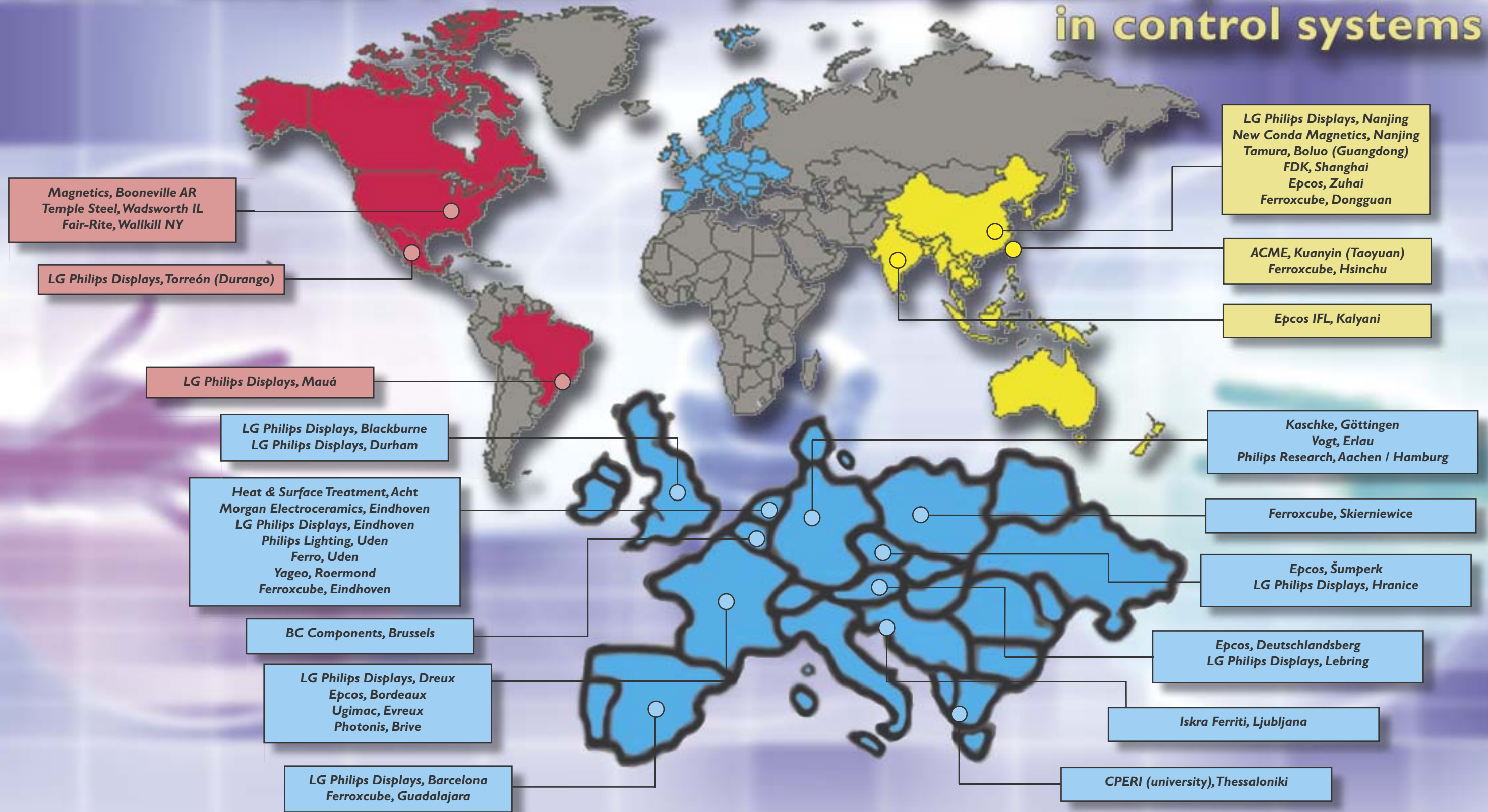
- Control systems for picture tube processing
- Control systems for ferrite sintering processes
- Control systems for continuous tunnel kilns
- Control systems for laboratory kilns
- Control systems for metal hardening / carburizing kilns
- Control systems for vacuum kilns for steel hardening

- Datalog systems for statistical analysis of kiln data
- Datalog systems for continuous tunnel kilns
- Measuring systems for statistical analysis of product data e.g. inductive, capacitive or piezo-electric
- SQL servers (database management information systems)
- Monitor / control systems for mechanical presses
- Monitor / control systems for hydraulic presses



Kiln control system screen snapshot

Ferroxcube EED - your global partner in control systems



WHERE OUR CUSTOMERS ARE.....

Examples of worldwide turn-key project roadmaps

Kiln control

Development and design of control system, in close co-operation with kiln manufacturer and customer

Assembly and production of the control system hardware with subcontractors

Software engineering

Testing of control system

Transport of control system (incl. packing) with (local) logistic partner

Installing of control system on-site with (local) subcontractors

Commissioning on-site

Training of operators and service personnel

Long term service



Batch sintering kiln

Measurement system

Development and design of measurement system, in close co-operation with customer

Assembly and production of measurement system hardware with subcontractors

Software engineering

Testing and calibration of measurement system

Commissioning of measurement system, in close co-operation with customer

Transport of measurement system (incl. packing) with (local) logistic partner

Training of operators and service personnel

Long term service



Powerless measurement setup for ferrites

All projects are done in close co-operation with the customer

Development, design, engineering, testing, commissioning, training and service are done by the EED engineers themselves. This guarantees that the customer gets a system working in full co-operation with the machine and the people operating it.

We don't stop until it works !!!

FERROXCUBE - your global partner

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