

EUREKA PROJECT E!390 - EUROCARE LAST

1. General description

Project	E! 390 - EUROCARE LAST	Status	Finished - 26-NOV-1993
Title	Optical Disk Product Designed For Long Term Archival Storage		
Class	Sub-Umbrella	Technological area	Environment
Start date	01-JUL-1990	End date	01-APR-1993
Duration	33 months	Total cost	1.46 Meuro
Partner sought	No		
Summary	Materials And Structures For Optical Disk Storage Technology. The Units Will Store Information For Lengthy Periods		

Budget and duration

Phase	Budget(Meuro)	Duration (Months)
Definition phase	0	2
Feasibility phase	0	3
Implementation phase	0	27
Total	1.46	33

Member contribution

Member	Contribution	Position	Since
France	60.00%	Notified Finished	26-NOV-1993
Belgium	40.00%	Notified Finished	26-NOV-1993

Participants

Company	Country	Type	Role
Digipress S.A. (Caen)	France	SME	Main
Glaverbel S.A. / Centre De Recherche Et De Developpement	Belgium	Large company	Partner

2. Project outline

Project description

Currently many organisations charged with responsibility for preserving their national heritage find themselves confronted with serious questions about the longevity of currently available media intended for information storage. These questions are especially troubling in the following fields:

- audio recordings in the National Archives currently stored either
 - 1) in older style cut "Wax"
 - 2) pressed into the newer PVC long playing records
 - 3) moulded into polycarbonate CDs, or
 - 4) stored magnetically on magnetic tapes or cassettes.
- original or facsimile visual images, both continuous grey scale and digitalized, whether stills or movies, currently stored on paper or film, or in some cases, on magnetic tape
- software and digital data now stored either on magnetic tapes or disks. In the same way, polycarbonate Compact Disks, despite the fact that the reading mechanism does not touch the surface, do not totally satisfy the requirements for archival storage. Their useful life is in fact limited by:

- the sensitivity of the substrate itself to:
 - * - mechanical warpage due to temperature and thermal gradients
 - * - scratches
 - * - progressive loss of optical clarity
- the susceptibility of current reflective layers to corrosion
- the failure of the substrate and the sealing polymers employed to provide an effective barrier to protect the reflective layer from corrosive agents.

DIGIPRESS has responded to these problems with the concept of a Compact Disk made of tempered glass and a non-reflective structure. The current project begins with that technology, called CENTURY(TM) technology. The goal of this programme is to optimize the materials the structure and the process used to produce the CENTURY(TM) Compact Disk so as to maximize its longevity.

Technological development envisaged

In addition to the unplanned spin-offs which frequently derive from such a programme, we can expect to see significant technological improvements in materials and in optical disk structures appropriate to archival data storage units.

Markets application and exploitation

Despite the fact that the CENTURY(TM) Compact Disk is aimed primarily at the archival storage media market, it is important to bear in mind that the technology also addresses the needs of three other applications:

- storage media in hostile environments (military, space,

use in extreme climates)

- substrates for fabrication of erasable optical disks (especially for magneto-optic active layers which are notoriously susceptible to corrosion)
- deluxe or limited series publication of high quality reference disks or numbered editions.

The two partners will use the information derived from the study in their respective factories in FRANCE and BELGIUM.

Project codes

BSI

LB	communication media
LIV	archives
LNC	recording media
QR	storage
ROW	wall coverings
ZV/ZY	culture

NACE

3. Main participant

Company **Digipress S.A. (Caen)**
Batiment La Folie Couvrechef, Rue Bailey, 18
140 50 Caen
France

Tel +33 2 31 47 35 00
Fax +33 2 31 47 25 02

Contact **Mr. Jean Ledieu**

Tel +33 2 31 47 25 00
Fax +33 2 31 47 25 02

Organisation type SME
Participant role Main

Contribution to project

Expertise

4. Partner

Company **Glaverbel S.A. / Centre De Recherche Et De Developpement**
Rue De L'Aurore, 2
6040 Jumet
Belgium

Tel +32 71 28 02 11
Fax +32 71 42 23 55

www.glaverbel.com

Contact **Mr. Andre Hecq**

Tel +32 71 28 02 11
Fax +32 71 42 23 55

Organisation type Large company
Participant role Partner

Contribution to project

2,399,000 BF.

Expertise

Belgian company, third largest European procuers of sheet glass. It has 20 plants in Europe and North America. In 1988 the GLAVERBEL Group employed 5,800 workers and had a gross turnover of 24 billion BF. For many years, the company has been investing in the development of new glass types suitable for optical and magnetic disk memory.