

# MRS

# BULLETIN

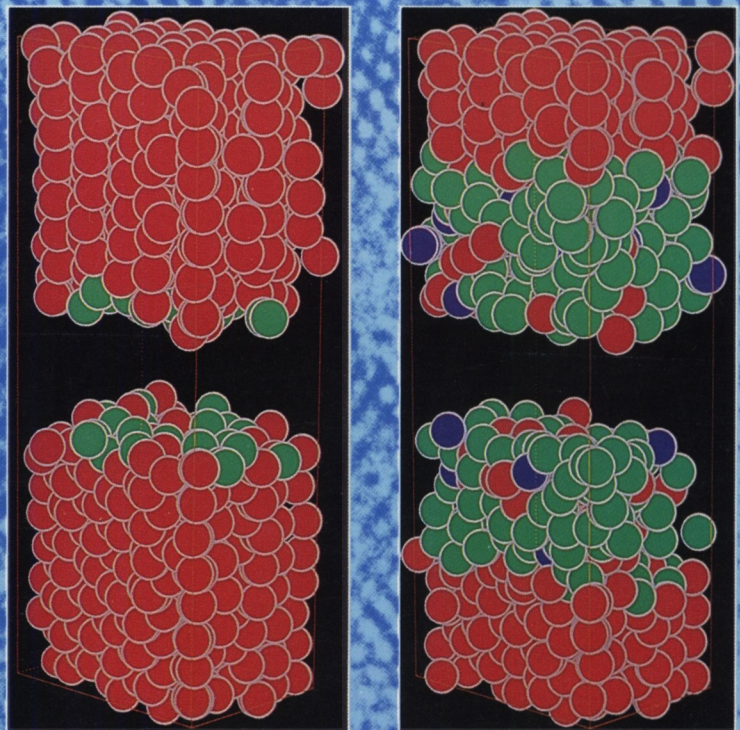
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Volume XV, Number 10

Serving the International Materials Research Community

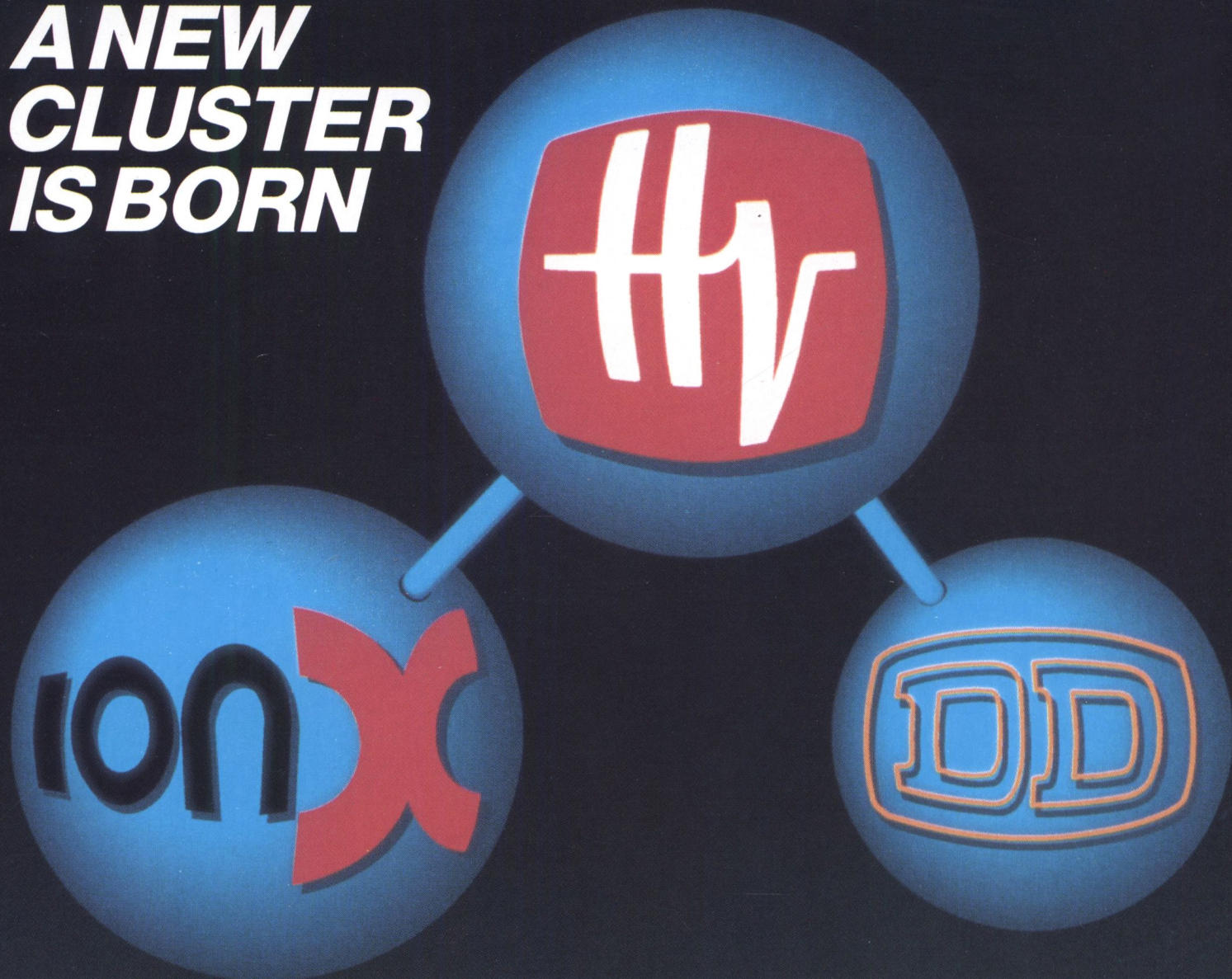
## Interfaces

### Part II





# A NEW CLUSTER IS BORN



## **General Ionex acquired by High Voltage Engineering Europa B.V.**

In December 1987 High Voltage Engineering Europa B.V. (HVEE) acquired Dowlish Developments Ltd (DD), an accelerator tube manufacturer located in the United Kingdom.

On April 10, 1989, HVEE purchased the General Ionex Analytical Product Group from Genus Inc. based in the United States.

Through this acquisition HVEE positions itself as the largest and most diverse manufacturer of particle accelerators for the scientific and industrial research communities.

The acquired General Ionex (GI) product lines, which include the Tandetron accelerator systems and Model 4175 RBS Analyser, will be manufactured in HVEE's new, well-equipped facility in Amersfoort, The Netherlands.

World wide marketing of all products from HVEE, DD and GI will originate from HVEE Amersfoort with sales and service offices in the USA, Europe and Japan.

After addition of the newly acquired products HVEE's product lines include:

- *Ion Accelerator Systems*
  - Air insulated accelerators up to 500 kV
  - Single ended Van de Graaff accelerators up to 4 MV
  - Tandem Tandetron accelerators up to 3 MV/TV
- *Research ion implanters*
  - Beam energies 10 keV-9 MeV and higher
- *Systems for ion beam analysis*
  - Systems for RBS, PIXE, PIGE, NRA, ERD, MACS and MEIS
- *Components*
  - HV power supplies, electron and ion accelerator tubes, ion sources beamline components, beam monitoring equipment, UHV sample manipulators, etc.

For further information on this transaction and product literature please contact HVEE in Amersfoort/NL.



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**ON THE COVER:** High-resolution transmission electron micrograph of a region of nanophase lead containing a number of grains. Note that most of the grains exhibit fringe contrast and that the fringes end abruptly at the grain boundaries. (For details see G.J. Thomas, R.W. Siegel, and J.A. Eastman, *Scripta Metall. et Mater.*, **24** (1990) p. 201.

The inset figures show the simulation of a bicrystal of silicon containing a grain boundary on the (110) plane at its center. The colors of the atoms denote their nearest-neighbor coordination: blue, red, and green atoms show coordination of three or less, four, and five or more, respectively. The coordination in the crystalline phase is four, while that in the liquid phase is approximately six. The left inset figure shows that 3.1 picoseconds after being heated to 2200 K (517 K above the melting temperature) a few planes either side of the interface have melted, while after 9.3 picoseconds, as shown in the right inset figure, nearly half the system is liquid. To display the structure at the grain boundary, the two halves of the bicrystal have been separated. See "Effects of Atomic-Level Disorder at Solid Interfaces" by S.R. Phillpot, D. Wolf, and S. Yip on p. 38.

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The Materials Research Society (MRS) is a nonprofit scientific association founded in 1973 to promote interdisciplinary goal-oriented basic research on materials of technological importance. Membership in the Society includes more than 10,000 scientists from industrial, government, and university research laboratories in the United States and more than 25 countries.

The Society's interdisciplinary approach to the exchange of technical information is qualitatively different from that provided by single-discipline professional societies because it promotes technical exchange across the various fields of science affecting materials development. MRS sponsors two major international annual meetings encompassing approximately 40 topical symposia, as well as numerous single-topic scientific meetings each year. It recognizes professional and technical excellence, conducts short courses, and fosters technical exchange in various local geographic regions through Section activities and University Chapters.

MRS is an Affiliated Society of the American Institute of Physics and participates in the international arena of materials research through associations with professional organizations such as European MRS.

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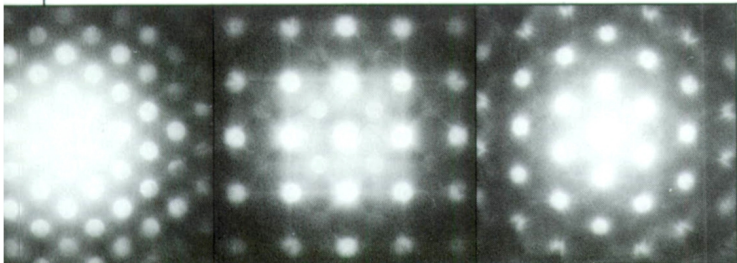
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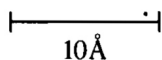
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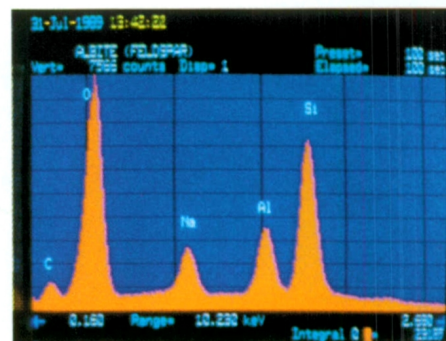
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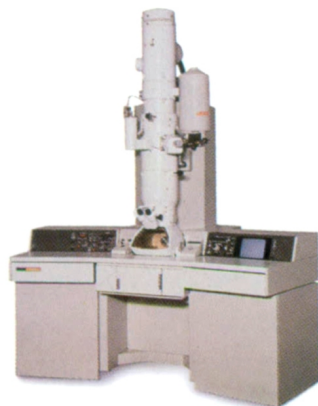
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