


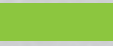




## Contamination Control Case studies

-  Pharmaceutical
-  Optical
-  Hospital
-  Biomedical
-  Food Hygiene
-  Automotive
-  IT
-  Electronics

High Performance  
Contamination Control Zones



# Dycem

Dycem has been manufacturing High Performance Contamination Control Zones since 1966. Our headquarters are in Bristol, England and Warwick, Rhode Island, USA.

Dycem's High Performance Contamination Control Zones are easy to use and provide a simple, long lasting and highly effective method of minimising foot and wheel borne contamination.

Use Dycem wherever contamination is a concern, e.g entrance and exit ways to critical areas, changing rooms, transfer hatches, corridors and airlocks.

Our diverse market place includes: Pharmaceutical, Aerospace, Semi Conductor, Disc Drive, Bio Medical, Research Labs, Hospitals, Medical Device, Fibre Optic, Computer Rooms, Optical, Automotive, Printing, Biotech, Microelectronics, Packaging and Food.

Our blue chip user base of thousands includes companies such as Sony, Glaxo SmithKline, Lilly, Johnson and Johnson, Motorola, Roche, IBM, Pfizer and Texas Instruments.

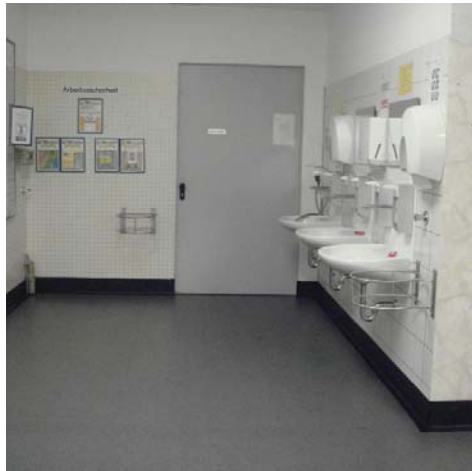
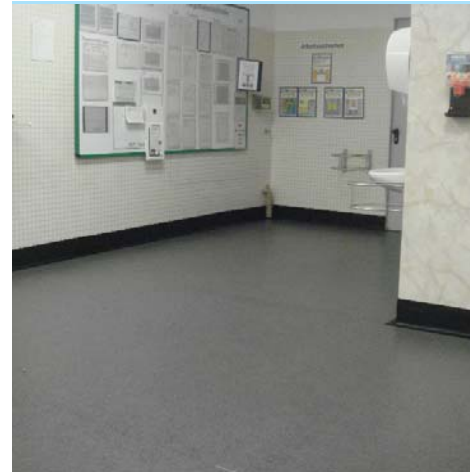
We have a wide range of product options, including loose laid mats, fixed mats and bespoke floor coverings to suit your individual needs and a comprehensive sales, service and distribution network covering more than 50 countries.

"Independent tests carried out at GlaxoSmithKline prove that Dycem High Performance Contamination Control Zones prevent over 99% of all viable and non-viable foot and wheel borne contamination from entering a critical area."

Dr Caroline Clibbon, Senior Microbiologist, GlaxoSmithKline, UK



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**CUSTOMER**  
B. Braun (Germany)

**CHALLENGE**  
B. Braun supplies healthcare markets all over the world. As part of their continuous improvement program they were looking for products to maintain their high standards of manufacturing

**SOLUTION**  
Dycem Cleanzone was installed wall-to-wall in several gowning areas and also outside entrances to the high classification cleanroom manufacturing areas.

**TIP**  
B. Braun asked for the Dycem flooring to be covered up the wall providing a totally seamless solution.



**CUSTOMER**

Boehringer Braknell (UK)

**CHALLENGE**

Boehringer were looking to reduce the amount of microbial cross contamination being tracked into production areas from the warehouse.

**SOLUTION**

Two test areas of Dycem were installed and monitored by Boehringer's senior on site microbiologist. The results were outstanding, just 2 small areas reduced the levels of microbial contamination by two thirds. The trials have proven so successful that additional areas are now being specified in. In a recent audit by Boehringer's International audit team, they were so impressed they will be recommending Dycem to all their facilities worldwide.





**CUSTOMER**

GlaxoSmithKline (UK)

**CHALLENGE**

To meet and exceed the rigorous standards required to prevent microbial cross contamination in critical areas of the Pharmaceutical Research and Development Unit.

**SOLUTION**

Senior Microbiologist, Caroline Clibbon, carried out tests which showed Dycem to be over 99% effective in preventing floor contamination entering the clean areas. The tests also revealed that the peel-off mats in use in the facility were only 27% effective. As part of its cGMP programme Glaxo has since installed Dycem Work Zone and Clean Zone throughout the facility in Ware and in a sister facility in Mayenne, France.



**CUSTOMER**  
Lilly (France)

**CHALLENGE**  
To maintain high standards in a number of Class 100 clean areas within a large facility producing a range of diabetic-related products. With 24-hour shift patterns and a high volume of pedestrian traffic an exceptional contamination regime is required to prevent cross contamination between areas.

**SOLUTION**  
Dycem was tested over a period of two weeks. The result was a dramatic reduction in particulate count. Monsieur Claude Muller, expert Trainer in Techniques Aseptiques, commented that Dycem flooring also reduced cleanroom cleaning costs as well as particulate levels. The tests were so successful that Dycem's Clean Zone and Work Zone flooring systems have since been installed outside a number of controlled environments at the facility.





**CUSTOMER**  
Qualasept (UK)

**CHALLENGE**  
Qualasept, a major provider of aseptic manufacturing services, wanted to maintain high standards in preventing wheel-borne contamination from entering critical areas.

**SOLUTION**  
Qualasept chose Dycem Clean Zone to protect clean environments. Four in-laid installations were made which have dramatically reduced particles from trolley wheels entering manufacturing units.

**TIP**  
Inlaid is an ideal install method for new build facilities and refurbishments.



**CUSTOMER**  
Sanico (Belgium)

**CHALLENGE**  
As a supplier to a number of high profile pharmaceutical companies, Sanico insists on exceptional standards of manufacturing. Preventing particulate entering the manufacturing area is a high priority.

**SOLUTION**  
Clean Zone was installed in a number of corridors leading to the critical areas, giving Sanico the quality demanded.



**CUSTOMER**  
Schering Plough (France)

**CHALLENGE**  
As a major manufacturer of biotechnology-based pharmaceutical products, Schering Plough needed a quality resolution in reducing contamination from entering production facilities.

**SOLUTION**  
Dycem Clean Zone has been installed at numerous entrances and exits ways to prevent contamination entering clean areas. As a satisfied customer, Schering Plough has significantly increased the number of installations of Dycem high performance flooring.

Agilent Technologies (UK)	09
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Sony camera division UK	11



**CUSTOMER**  
Agilent Technologies (UK)

**CHALLENGE**  
To minimise dust and particulate in the critical area of this Hewlett Packard division, where high quality fibre optics are manufactured for worldwide distribution.

**SOLUTION**  
Dycem has been installing its contamination control flooring products in changing rooms and corridors at this facility for many years.

"Dycem products are tried, tested and trusted and are acknowledged as the number one flooring solution for reducing particulate counts."





**CUSTOMER**  
Carl Zeiss (Germany)

**CHALLENGE**  
The manufacture of optical products requires impeccable standards and a very clean environment. Any ingress of particulate into the clean area would cause severe disruption to the production schedule.

**SOLUTION**  
Dycem Clean Zone was installed to keep particulate contamination out of the clean areas, helping Carl Zeiss to maintain the high standards it demands for all stages of production.

**CUSTOMER**

Sony camera division UK

**CHALLENGE**

Sony's camera division in South Wales were having some problems in the assembly of intricate components due to contamination being brought into the assembly areas from external warehouses.

**SOLUTION**

Since installing Dycem Sony's South Wales camera divisions class 10,000 cleanroom has improved dramatically and now meets class 1,000 and at the entrance/exit ways to the assembly areas particle counts have tumbled from 12 million to less than 8 million. This reduction in contamination has led to improved assembly performance.

**ADDED BENEFIT**

Sony also use Dycems unique cleanroom compatible anti fatigue and bench mat products to help with thier assembly processes

Hospital Virgen del Camino (Spain)

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**CUSTOMER**  
Hospital Virgen del Camino (Spain)

**CHALLENGE**  
Infection control is a major issue in any hospital environment. As part of its comprehensive control programme this hospital reviewed procedures relating to all of their operating theatres.

**SOLUTION**  
Dycem flooring has been laid outside entrances to operating theatres and is now part of the hospital's standard infection control programme.



A major university in the UK

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**CUSTOMER**

A major university in the UK

**CHALLENGE**

To prevent the ingress of contamination at entrances, exits, corridors, transfer hatches and airlocks.

**SOLUTION**

Dycem has been installed to control the heavy contamination from sawdust, right down to very small microns of particles.

Kwok Foods	14
Thomas Food Group	15



**CUSTOMER**

Kwok Foods

**CHALLENGE**

As part of their continuous improvement programme Kwoks Foods Ltd, a leading UK supplier of oriental ready meals was looking to improve levels of contamination control and reduce the possibility of listeria entering the manufacturing process.

**SOLUTION**

Kwoks installed Dycem at entrances to their high care areas and conducted Swab tests which showed the effectiveness of Dycem products in reducing contamination levels.



**CUSTOMER**  
Thomas Food Group

**CHALLENGE**  
To maintain excellent cleanliness levels in dried food production. Thomas Food was looking to prevent contaminants from entering at floor level.

**SOLUTION**  
Dycem red CleanZone was installed in several areas of the Thomas food group including corridors and gowning areas.

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**CUSTOMER**  
Honda

**CHALLENGE**  
As manufacturers & suppliers to the automotive industry, procedures are required to control contaminants which have a dramatic effect in terms of product yield and reduced reworks.

**SOLUTION**  
Dycem CleanZone was installed at the entrance to a critical area as a cost effective means of controlling contamination at floor level and preventing it from getting into critical development work.



**CUSTOMER**

MacDermid Autotype(UK)

**CHALLENGE**

MacDermid are experts in precision coating technology and needed to maintain their high standards of manufacturing by preventing foot borne contamination from getting into their critical areas.

**SOLUTION**

Dycem's high performance Clean Zone was installed in the corridors to help prevent cross contamination. CleanZone was also installed at entrances and exits of their facilities.



**CUSTOMER**  
Plastic Omnium (UK)

**CHALLENGE**  
A key supplier to the automotive industry, Plastic Omnium prepares, sprays and finishes moulded plastic body parts. To ensure top quality finishes for customers such as Rover, Jaguar and Ford, keeping dust out of the spraying areas is a high priority.

**SOLUTION**  
The large areas of Dycem Flooring dramatically reduced dust in the spray areas. The company has found the flooring easy to clean and maintain and has been a satisfied customer for many years.



**CUSTOMER**

Red Bull Racing (UK)

**CHALLENGE**

To ensure that high clean room standards are met, especially in the manufacturing department where it is crucial to prevent dust entering areas where the cars are built.

**SOLUTION**

Dycem's high performance Clean Zone was installed using the in-laid method, in their clean-room air lock giving Red Bull the quality they demanded.





**CUSTOMER**  
Rolls Royce

**CHALLENGE**  
To ensure contaminants or small particles that may be built-in, self generated or ingested from the environment do not get into the assembly areas.

**SOLUTION**  
Dycem was installed to prevent the ingress of dirt and contamination from getting into sensitive manufacturing areas including engine parts, electrical components, assembly lines, fascias, lights and windscreens.





**CUSTOMER**  
WilliamsF1Team (UK)

**CHALLENGE**  
To ensure impeccable performance of Williams cars, top quality contamination control solutions are required to prevent dust entering clean areas where the cars are built. This is particularly important in the assembly areas for suspension and hydraulic units.

**SOLUTION**  
For the last eight years Williams has chosen Clean Zone to protect clean environments. To maintain high standards the company replaces the Dycem installations every three years.



IFL - Internet Facilitators Ltd (UK)

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**CUSTOMER**

IFL - Internet Facilitators Ltd (UK)

**CHALLENGE**

As a major provider of state of the art collocation facilities and data centre services, IFL were looking for ways to help prevent Dust from entering the data centre. Without protection from dust, there is a huge risk of data loss and hardware failure. Dust can cause irreversible harm to computer systems by clogging heat-sinks and cooling systems leading to overheating and induce a major risk of fire hazard.

**SOLUTION**

Dycem's high performance Clean Zone was installed on top of access tiles to effectively control foot borne contamination.







**CUSTOMER**  
Air Products (Belgium)

**CHALLENGE**  
As a key supplier of high quality bottled gas products to clean rooms, the company demands the highest standards in its facility.

**SOLUTION**  
Work Zone was installed in the corridor leading to the changing room and critical area.



**CUSTOMER**

Altis Semiconductor (France)

**CHALLENGE**

This wafer fab facility has 24-hour shift patterns and operates 365 days a year. The company introduced a "Clean Concept" initiative to drive down contamination levels and safeguard continuous production.

**SOLUTION**

A trial installation of Dycem flooring at Altis resulted in a dramatic reduction in particulate levels. Building on this success Altis incorporated Dycem into the "Clean Concept" initiative, selecting a colour-coded system of Dycem mats for entrances, exits, corridors and changing rooms. A year later Altis is very satisfied with the results. Particulate counts remain low, consumable spending has fallen and the Facilities Department finds cleaning and maintenance quick and easy.





**CUSTOMER**

Ami Semiconductor (AMIS)  
(Belgium)

**CHALLENGE**

This wafer fab facility is subject to very high volume pedestrian traffic and has numerous Class 1 clean areas. Stringent contamination control procedures are required to deliver the quality and product yield demanded by Ami Semiconductor.

**SOLUTION**

A trial installation of Clean Zone proved its effectiveness at reducing particulate counts. Clean Zone was installed in the changing rooms and now plays a vital part in delivering the company's product yield and quality targets.





Tim Sandle from BPL recently prepared a paper which describes a study undertaken in a biopharmaceutical manufacturing facility, within the National Blood Service. The study centered on the reduction of microbial contamination from the footwear of staff and trolley wheels where they access a first-step change area.

“The study demonstrated that microbial counts into the access corridor were significantly reduced following the fitting of polymeric flooring. Therefore polymeric flooring can be a useful addition to a contamination control programme”.

**CUSTOMER**  
BPL (UK)

**CHALLENGE**  
Eliminating particulate in the manufacturing area is key to BPL’s drive for consistently developing new and improved high quality plasma products, whilst maintaining the company’s excellent safety record.

**SOLUTION**  
Clean Zone and Work Zone were installed in a number of corridors leading to the critical areas. As part of a cGMP initiative, BPL tested for bacteria and yeast moulds and found them before and on the Dycem flooring, but no trace was found in the clean areas.





**CUSTOMER**  
Epson Telford Ltd (UK)

**CHALLENGE**  
To maximise yield of inkjet cartridge production, Epson's class 100,000 and class 10,000 cleanrooms need high quality, effective solutions to contamination control and cross contaminants.

**SOLUTION**  
After trial installations, tests proved Dycem to be highly effective at reducing particulate counts. Dycem Clean Zone and Work Zone were installed in a number of areas such as gowning rooms, corridors and access hatches. The trial was so successful that other Epson facilities around the world have since installed Dycem.

**CUSTOMER**

Infineon (Germany)

**CHALLENGE**

This wafer fab facility has several "state of the art" Class 1 clean areas that demand high performance contamination control solutions. Elimination of electro-static discharge is also vital to safeguard products.

**SOLUTION**

Dycem flooring was installed and has now become an integral part of the company's continual drive for quality. Alongside high performance particulate control, Dycem offers Electrostatic Dissipative versions of the flooring, which provide significant benefits to the microelectronics industry.



**CUSTOMER**  
Innos

**CHALLENGE**  
Innos, the UK's leading research and development company delivering expertise in silicon, MEMS and nanotechnologies were looking for an effective flooring solution for their newly built cleanroom.

**SOLUTION**  
Dycem Clean Zone has been installed at numerous entrances and exits to prevent contamination entering clean areas.





**CUSTOMER**

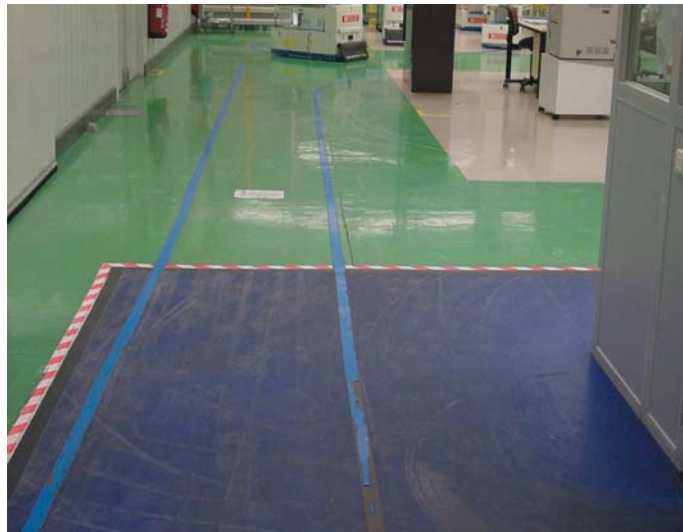
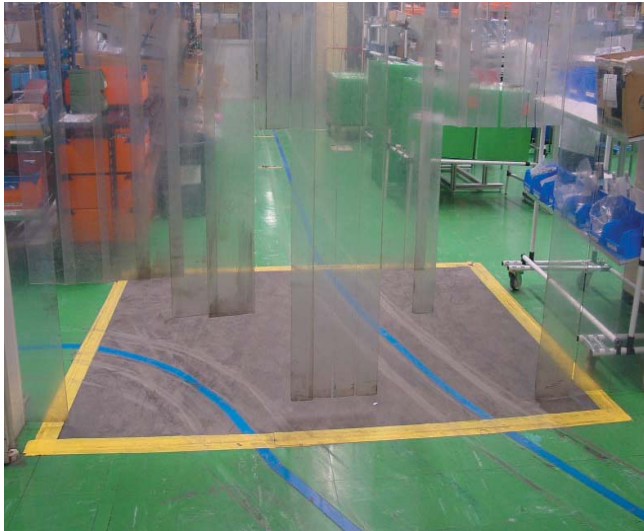
Philips Electronics (France)

**CHALLENGE**

Preventing particulate entering the LCD assembly area in the semi-conductor facility is crucial to avoid unacceptable levels of product failure.

**SOLUTION**

Clean Zone was installed in the gowning rooms to ensure high standards and minimal rejects. Philips is delighted with the performance of the Dycem flooring.



**CUSTOMER**  
Ricoh (France)

**CHALLENGE**  
As part of a cGMP programme Ricoh designed a contamination control regime to reduce particulate in the Class 10,000 photocopier assembly areas. Foot and wheel-borne particulate were identified as a major threat to quality.

**SOLUTION**  
Following outstanding test results, Ricoh chose to work with Dycem to control floor contamination at all entrances to the assembly areas. The wheeled robots, which move between production lines, pass over the flooring as part of the decontamination process.

The installations shown are still performing effectively after three years. A number of other Ricoh manufacturing facilities are now installing Dycem.





**CUSTOMER**

Seagate Technology (UK)

**CHALLENGE**

In the manufacture of hard disk drives any microscopic contamination or out gassing adversely affects product quality and yields.

**SOLUTION**

Seagate installed Clean Zone in the changing rooms so that operators get multiple footsteps on Dycem's decontamination surface before they enter the clean room.



**CUSTOMER**

Smiths Detection (UK)

**CHALLENGE**

Due to the sensitivity of the processes at this gas test equipment manufacturer, it is essential to keep the production areas free of particulate.

**SOLUTION**

Large areas of Clean Zone and Work Zone were installed wall-to-wall to ensure that all traffic would pass over the flooring and be effectively de-contaminated.



**CUSTOMER**

TMX Phillipines

**CHALLENGE**

TMX, part of the timex group, are a leading manufacturer of digital /electronic watches. TMX were looking for a solution to help prevent faults with the led lights within the watches.

**SOLUTION**

TMX now use Dycem protectamats in entrances to the manufacturing areas and in production line assembly areas. Protectamats have proven to effectively control levels of dust and dirt within this facility.



TRW : Wyeth Pharmaceutical : Seiko Epson : Agilent Technology: GlaxoSmithKline : Sony : Toshiba : British Airways : Infineon : Addenbrokes Hospital : BMW Group : Samtel Electronics : Bristol Myers Squibb : Lexmark : Novartis : Aventis : Sanofi-Synthelabo : HP Invent : Amcor Technologies : Bookham Technology : Lilly : Orchid Chemicals : Pioneer Electronics : Pfizer : Rolls Royce : Honeywell : Omron : Kodak : Astra Zeneca : BAE Systems : G E Healthcare : University of Cambridge : Abbott Laboratories : Ethicon : Baxter Healthcare : Moser Baer : Fujitsu : Hitachi Display : Boots plc : Atmel Semiconductors : Intel : Boston Scientific : Tyco Healthcare : Millipore : Schering Plough : Elan : Transitions Optical : Alcon Laboratories : Skyworks : Zyco : University of London : St Bartholomews Hospital : International Rectifier : Papworth Hospital : Charm Sciences : Mitsubishi : Ford Motor Company : Closure Medical : National Blood Services : B Braun : Oxford University : Parker Hannifin : Boehringer Ingelheim : Carl Zeiss : Bio Products Limited : QMC Biomedical Services : Epcos : Bosch : Haupt Pharma : Becton Dickinson (BD) : Merck Sharp & Dohme : Akzo Nobel : Schwarz Pharma : Fresenius : Wilson Cook : Q E Hospital Welwyn : Osram : National Semiconductors : Williams Formula 1 : St Gobain : Hoffman La Roche : Merck Electronic : Matsushita (Panasonic) : CTS Microelectronics : Meddimune : BPAS : Tyco Electronics : Micronclean : Wellcome Trust : Cambridge Antibodies Technology : Chartered Semiconductors : Behring : Roxanne Laboratories : ST Microelectronics : Hoya : Plastic Omnium : Hutchinson Technology : Clariant : Oxoid : Fisher Scientific : Nypro : Ortho Clinical Diagnostic : De Puy : Tutogen Medical US Inc. : Applied Materials : Astrium : Sanmina : Valeant : Coopervision : Bausch & Lomb : Freescale : Hynix : Chi Mei Optoelectronics Corporation : TSMC : Rentschler Biotechnology : AEA Technologies : Atmel Smartcard : University of Wales : Singleton Hospital : St Georges Hospital Tooting : SSL International : Ipsen Biopharm : Wokhardt : AMD : Biomerieux : Cisco Systems : Ericsson : Stryker Howmedica : Covance Laboratories : Leo Laboratories : Fujisawa : Seagate : Allergan : Organon : Macfarlane Smith : AMI Semiconductor : Analog Devices : Hella Manufacturing Ltd : ISRO : Biomet Merck : University of Glasgow : Southern General Hospital : IBM : Timex Philippines : Reckitt & Benckiser : Dow Corning : Velindre Hospital : University of Bath : Moog Controls : G & M Procter : Aston Martin : Dominik Hunter : Patheon : Western General Hospital : Zarlink Semiconductors : Autotype International Ltd : Photonics : Saad Specialist Hospital (Saudi Arabia) : Philips Semiconductor : Guardline Technology : X Fab : Smiths Industries : Cardinal Health : Hammersmith Hospital : University of Bristol : Serum Institute (India) : West Pharmaceuticals : Smith & Nephew : AIS/Countdown Ltd : University of Edinburgh : Merial Animal Health Ltd : Alpharma : Procter & Gamble : Chiron Vaccines : Jaguar Cars Ltd : Vikram Space Centre : JCT Electronics : Ecovert FM : Johnson & Johnson : Rohm & Dass : E Merck : Vetter-Pharma : Heinz : Stoke Mandeville Hospital : Orange : H M Government : National Space Laboratories UK : NASA : Nokia : Bayer : Sigma Aldrich : Lockheed : Dowty Aerospace : Johnson Matthey : Mercedes : Wacker Semiconductors : Canon : Racal : Nestle : Medtronic : Dumex (Indonesia) : Tower Semiconductors : Raytheon Systems : Fairchild Semiconductors : 3M Healthcare : Genzyme : Marconi : NEC : Samsung : Texas Instruments : RPL Containers : Komag : Genetech : Kabi Pharma : Abbott Murex : Thomson : Maxell Europe : Du Pont : Remel : Leica Microsystems : Vistacom : Excel Logistics : Astra Zeneca : BAE Systems : Sony : Toshiba :



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