

DCE CONSULTANTS, INC.

SUMMARY OF JOBS MICROELECTRONICS - HIGH TECH INDUSTRY

MICROELECTRONICS & HIGH TECH			
CUSTOMER	DATE	PROJECTS	DESCRIPTION OF PROJECTS
Solyndra	2007	Page Road	Remodel 75,000 sf office and R&D facility for PV thin film
Solyndra	2007	Kato Road	Install new 140,00 sf Class 10,000 PV manufacturing facility
Headway Technologies	2006	B.1 Manufacturing	Install new 6,000 sf Class 10,000 LIO manufacturing suite with chemical distribution system and chemical bunker
Headway Technologies	2006	B.1 Manufacturing	Install 2 new Tomco tools in wet chemistry lab
Headway Technologies	2006	B.1 Manufacturing	Install new 2,500 sf Class 10,000 Asher Etch manufacturing area
Headway Technologies	2006	B.3 R&D	Install new 4,000 sf Class 10 R&D Lab
Smurfit Stone	2005	San Jose Reprocessing Center	Install new Felt Wash Chemical distribution system
Smurfit Stone	2005	San Jose Reprocessing Center	Install new Bulk NaOH tank and distribution system
Headway Technologies	2005	B.1 Manufacturing	Install new CMP slurry distribution system for 10 Strasbaugh and Iirra Mesa CMP tools.
Headway Technologies	2005	B.1 Manufacturing	Install new 250 KW emergency generator.
Headway Technologies	2005	B.1 Manufacturing	Install new 10,000 sf Class 100 lithography lab with 2 ASML exppers, 6 Nikon Scanners and 6 Coater Developers
Headway Technologies	2005	B.1 Manufacturing	Install new 2,000 sf MANO manufacturing area
Headway Technologies	2005	B.1 Manufacturing	Install new PCW tower and distribution system
Headway Technologies	2005	B.1 Manufacturing	Install 2 new Tencor tools
Headway Technologies	2005	B.1 Manufacturing	Install new Reticle Stocker
Headway Technologies	2005	B.1 Manufacturing	Install 3 new Hot Bake Ovens
Headway Technologies	2005	B.1 Manufacturing	Install new 5,000 sf thick film lab with 2 SSEC EcoSnows, SRDs, Equinox tools
Headway Technologies	2005	B.1 Manufacturing	Install new 100,000 CFM Munters VOC abatement device
Headway Technologies	2005	B.1 Manufacturing	Install new waste water treatment system
Headway Technologies	2005	B.1 Manufacturing	Install new heavy metal removal system
Headway Technologies	2005	B.1 Manufacturing	Install 4 new Etch Stripper tools
Headway Technologies	2005	B.1 Manufacturing	Install new 3,000 sf Class 100 metrology lab with 2 XRF, 2 Meas relay tools, 2 KLA tools
Headway Technologies	2005	B.1 Manufacturing	Install new 4,000 sf Class 10,000 wet chemical lab with 2 herimade cleaning stations
Headway Technologies	2005	B.1 Manufacturing	Install 3 new Ion Implanters
Headway Technologies	2005	B.1 Manufacturing	Install new 1,200 sf Class 10,000 Au Deposition Lab
Obsidian	2003	B.2 Pilot Manufacturing Lab	Install new waste water treatment system
Torrex	2003	B.2 R&D Lab	Install 2 new CMP tools
Applied Materials	2003	B.81 Etch Labs	Establish new tool installation program for EH&S.
Applied Materials	2003	B.6 Etch Lab	Install new 3,000 sf lab for Etch R&D.
ASML	2002	Atomic Layer Deposition Lab	Installed a 3,000 sf, Class 10,000, Atomic Layer Deposition Lab
ASML	2002	B.4 R&D	Install new 2,000 sf Class 100 R&D lab

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ASML	2002	B.8 Manufacturing	Install new elevator for tools
ASML	2002	B.8 Tools	Install 4 new Thermal Vertical ovens
Applied Materials	2002	B.77 R&D E	Project Manage new 150,000 sf Class 10,000 CMP pilot manufacturing and R&D facility.
Applied Materials	2002	B.8 Ion Implanter	Installed a 6,000 sf, Class 10,000, toxic lab Production Facility 3 bays for single bay Ion transformer
Intel	2001	Tool Load Dock & PreClean	Installed Transition area into the clean room
Applied Materials	2001	B8 CMP	Installed 15,000 sq ft of Class 10,000 Clean Room with Chemical very system, waste water treatment& DI.
Applied Materials	2001	B81 Tool Installs	Installed (3) CVD Producer tools in a Class 10,000, H3 occupancy environment
Intel	2000	Intel D2 Plant Phase (4) Expansion	(\$1B Construction \$1B - Tools (Turner Const. \$600M)
Intel	2000	Gowning Area	Installed clean gown room in area before entering the Clean Room
Intel	2000	Analytic Lab	Installed a Metrology Lab for Wet Clean Process
Applied Materials	2000	B1 Ion Implanter Expansion	Installation of (2) 200mm Ion Implanters in a Class 1,000 Clean room with 3,000 sq ft in an H6 environment.
Applied Materials	2000	B20 2nd Floor	Installation of 30,000 sq ft office Tenant Improvement project.
Applied Materials	2000	B5 Failure Analysis Lab	Installation of a 1,000 sq ft Class 10,000 failure analysis lab.
Applied Materials	2000	B5 ISM Construction	Installation of a 22,000 sq ft PVD/CVD Research & Development Class 10,000.
Applied Materials	2000	B5 Seismic Construction	Major Seismic retrofit for a 44,000 sq ft lab.
Applied Materials	2000	B5 Server Room SSB	Expanded server room by 1,000 sq ft and installed 100 new servers in Server Room.
Applied Materials	2000	B5 Utility Construction	Installed new HVAC, CDA, DI, and electrical upgrade on 44,000 sq ft lab.
Applied Materials	2000	B88 Buildup Fit Up	40,000 sq ft Tenant Improvement project with non clean rooms.
Applied Materials	2000	Facilities Process and Work Flow	Created a process for managing tool installation and tenant improvements for project valued under \$1M.
Applied Materials	2000	Permit Tracking & Closure	Managed the closure of (55) expired or outstanding permits with the city of Santa Clara for 25 buildings for Applied Materials. Installed new tracking device for monitoring permits.
EnCommerce	1999	2901 Patrick Henry Drive	Tenant Improvement project for 25,000 Office Remodel and new 100 server Data Center
Applied Materials	1999	B5 Tool Installation (24) systems.	Installed (25) PVD/CVD 300mm tools with metrology equipment in Class 10,000 environment.

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Applied Materials	1999	B5 Micro Contamination Lab	Class M1 Clean Room for studying contamination reduction on D systems.
Applied Materials	1999	B7 Data Center	Expanded 4,000 servers in Data Center (5,000 Sq Ft).
Applied Materials	1999	B78 Data Center Expansion	Expanded 6,000 servers in Data Center (5,000 Sq Ft).
Applied Materials	1999	B8 WMO	Pilot manufacturing for (3) 300mm Producer tools.
Applied Materials	1999	B8 - Tool Installation	Installation of (4) 300mm (1) 200mm CMP Tools.
Applied Materials	1998	B.55 ATD-ME Lab	Automatic Testing D - Installed 2,000 sq. ft. of new class 10,000 ptic testing lab.
Applied Materials	1998	B100 Scott Campus Tenant Improvement	Major remodel for an 88,000 sq. ft., office, warehouse, cafeteria (3) new non clean labs.
Applied Materials	1998	B24 Laser Lab	1,000 sq ft Class 1,000 Clean room for laser metrology equipment.
Applied Materials	1998	B5 Pilot Line	Pilot manufacturing of (16) PVD Physical Vapor Deposition class 000.
Applied Materials	1998	B89 Lithography Lab & Tools for PRP	3,000 sq ft Class I clean room for DUV (deep ultra violet) lithography stepper.
Applied Materials	1998	B89 WWTS & Chemical Bunker Construction	Installed new waste water treatment tank and bunker for photo lithography lab.
Applied Materials	1998	B89 DNS Track System	500 sq ft Class I Photo Lithography Laboratory.
Applied Materials	1998	B.5 Bridge Crane	Installed (2) 1 ton jybce cranes and (1) 3 ton bridge crane in class 000 clean room.
Loral Space Systems	1997	B47 Satellite Sub Assembly Lab	Installed 80,000 sf, Class 10,000 lab w/ (2) 10-ton bridge cranes and (2) auto-claves
Applied Materials	1997	B55 Tenant Improvement Project	Installed 75,000 sf, Office and Class 10,000 lab
Applied Materials	1996	B24 Micro Contamination Lab	Installed a 3,000 sq ft Class I clean room.
Applied Materials	1996	B24 Physical Vapor Deposition Lab	Installed 2,000 sf, Class 10,000 lab for first PVD system.
Applied Materials	1996	B25 High Pressure Fluorine System	Installed 1,500 sf, Class 100, explosion proof lab for the first High Pressure Fluorine System
Apple Computer	1996	Pilot Engineering Lab	Installed 3,000 sf, non-clean lab