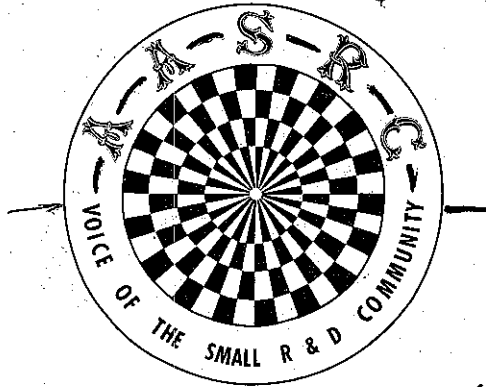


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1 E. Cruikshank Road 102
P. O. Box 158
Valencia, PA 16059
John D. Folley, Jr., Pres. (412) 586-7771

Research, development and consulting in improving the performance of people in systems through job design, training, equipment design, job performance aids, and improved technical documentation.

18. APPLIED SKILLS, INC. 78
12 Thurmont Road
West Caldwell, NJ 07006
Alfred J. Salomen, Pres. (201) 226-7049

Design and marketing of high technology expertise.

19. APPROVED ENGINEERING TEST LABS 1, 2, 3, 4, 6, 9, 10, 16, 17, 22,
Division of National Technical Services 24, 26, 27, 28, 29, 30, 34, 40,
15720 Ventura Blvd., Suite 608 41, 42, 44, 45, 46, 47, 48, 49,
Encino, CA 91436 51, 53, 54, 58, 63, 66, 70, 72,
Aaron Cohen, Pres. 76, 79, 80, 82, 83, 84, 86, 88,
(213) 783-5985 or 872-3701 91, 95, 98, 99, 100, 101, 103,
104, 105, 106, 107, 108, 110,
111, 112, 112A, 113, 113A,
114, 116, 118, 121, 124


Provides complete testing, field inspection services, certification and listing and labeling service in the commercial, industrial, construction (including Highrise), and aerospace fields. Additionally performs product safety evaluations, failure mode effects analyses (FMEA) and precision cleaning and packaging. Offers trained personnel and sophisticated equipment for: Temperature; pressure; flow; altitude; vibration; seismic; vacuum; solar (continued)

26. AUERBACH ASSOCIATES, INC. 20, 21
 121 N. Broad Street
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 R. LeKashman, Pres. (215) 491-8200
 Information systems architect; computer programming; consulting. Furnishes full range of services needed to use information as management and executive tool.
27. AUTOCLAVE ENGINEERS, INC. 19, 28, 30, 49, 56, 70, 92, 116
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 Erie, PA 16512
 Paul T. Bowser, Sales Mgr. (814) 838-2071
 Designer and manufacturer of high pressure equipment (both components and complete package systems) for research and production in the chemicals, petrochemicals, pharmaceuticals, metals, ceramics, quartz, energy and other miscellaneous industries where high pressure/temperature equipment is required.
28. AUTOMATED SCIENCES GROUP, INC. 21, 25, 32, 37, 45, 68, 80
 8555 - 16th Street, Suite 713
 Silver Spring, MD 20910
 Conrad Hipkins, Pres. (301) 587-8750
 Analytical and computer-related consulting services; systems programming and applications software development; mathematical and statistical analysis; modeling, simulation and forecasting; ADP planning, computer hardware/software selection, evaluation and benchmark; operations research; organizational analysis; data collection, procedures development and training.
29. BAGANOFF ENGINEERING INC. 5, 21, 68, 70
 380 Brookes Drive
 Hazelwood, MO 63042
 Fred Baganoff, Pres. (314) 831-0956
 Flight testing. Instrumentation development. Scientific data processing. Special purpose computers.
30. BAIRD-ATOMIC, INC. 48, 49, 70, 81, 90, 95, 99, 106
 125 Middlesex Turnpike
 Bedford, MA 01730
 David F. Walsh (617) 276-6000, Ext. 6196
 Electro-optical systems; spectrochemical, fluorometric, atomic absorption, and other analytical instrumentation; nuclear medicine and health systems and instruments; advanced electronic recording equipment; passive night vision devices.
31. BARNES ENGINEERING CO. 6, 49, 70, 90, 101, 105
 30 Commerce Road
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 Harry Benoit, Jr., VP/Eng'g and Programs
 (203) 348-5381, Ext. 228 and 276
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tanks, alloys, hydrides, and hydrogen purifiers. Production of electrolyzers is envisioned in the near future. Can design a hydrogen system for almost any function or need.

39. BIOCHEMICAL INTERMEDIATES CORP. 17, 35, 73, 110
P. O. Box 1469
Rockville, MD 20850
Dr. M. H. Hajiyani

Custom synthesis. Synthesis of research chemicals with isotopes. Drug design and pharmacological screening.

40. (The) BIONETICS CORPORATION 6, 9, 12, 13, 17, 36, 48,
18 Research Drive 54, 66, 84, 95, 99, 108,
Hampton, VA 23666 109, 110
Dr. Joseph A. Stern, Pres. 
(804) 838-8880

Provides support services to government and industry in fields of aerospace science & technologies, biomedical sciences, microbiology, systems engineering, quality control, environmental protection systems, industrial safety, pollution controls, instrument calibration, technical documentation services, computer/image processing, acoustics, sterilization techniques and flight crew equipment maintenance. Also provides chemical and microbiological analytical laboratory services specializing in analysis of water, waste water, food products and fuel for government and industry.

41. BIORESEARCH, INC. 10, 12, 17, 41, 45, 70, 81,
315 Smith Street 84, 95, 118
Farmingdale, NY 11735
Eugene Findl, Division Mgr. (516) 293-7219 

Medical research and healthcare. Electrochemistry. Environmental monitoring. Microbiology. Biochemistry. Batteries. Fuel Cells. Electric vehicles.

42. DAVID H. BLASETTI 2, 47, 72A, 92
7019 Guilford Road
Upper Darby, PA 19082
(215) 622-5274

Independent inventor doing R&D on the transient response of sound reproduction systems. Has patent on technique for reverse bending vibration testing of items large or small. Originally conceptualized for testing at earthquake frequencies and accelerations, this technique allows frequency to be adjusted separately from acceleration. Has worked as a senior pipe stress analyst for Catalytic, Inc. in the petro-chemical field. Is interested in inertial propulsion system suitable for transportation and space travel; a system independent of air and gravity.

43. ROBERT A. BOLKE 23, 25, 26, 27
115 Mamasco Road
Ridgefield, CT 06877
(203) 438-5597

Administrative consultant to R&D companies.

44. R. R. BOWKER CO. 97
1180 Avenue of the Americas
New York, NY 10036
Ruth Karpes

Publishers. Sell mailing lists of libraries and bookstores.

52. CADCOM, INC. 1, 21, 32, 45, 47, 48, 63,
107 Ridgely Avenue 68, 77, 79, 87, 95, 103,
Annapolis, MD 21401 107, 108, 109, 114
Dr. Charles O. Heller, President
(301) 268-9010

High-technology firm active in computer-aided design, systems engineering, environmental and energy technology, technology transfer, safety engineering, and systems engineering. CADCOM employs 50 persons at three locations: Annapolis, MD, Arlington, VA and Norfolk, VA.

53. CANNON ASSOCIATES 69, 78, 109
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Reston, VA 22090
Peter J. Cannon, Pres. (703) 437-5888

Field marketing and sales. Market research and intelligence. Program development. R&D marketing. Technical hardware sales. Public relations. Contract administration. Marketing consultation. Government liaison.

54. CARY ARBORETUM 36, 48, 103
P. O. Box AB
Millbrook, NY 12545
Daniel F. Brown (914) 677-5348

Solar energy systems and energy conservation in building construction; environmental safety; ecologically oriented research and education.

55. CELESTIAL SYNERGETICS CORP. 93, 103
2 Houston Center—Suite 814
909 Fannin
Houston, TX 77002
Dr. Bryan J. Zwan, Chairman of the Board
(713) 654-4422

Basic, applied and product oriented research and development of Solar-to-Electric Energy conversion devices and systems with primary effort in photovoltaics.

56. CHAM OF NORTH AMERICA, INC. 5, 6, 19, 21, 23, 27, 34,
3400 Blue Spring Rd. —Suite A7 45, 46, 47, 49, 52, 56, 57,
Huntsville, AL 35810 63, 65, 74, 76, 80, 83, 87,
Michael A. Spalding, Administration Mgr. 88, 92, 93, 95, 103, 108,
(205) 859-4440 114, 121, 123

Develops computer programs based on the mathematical modelling techniques of Prof. D. B. Spalding, to analyze and predict one, two, and three dimensional fluid flow phenomena, involving heat, mass and momentum transfer. Specific areas of interest include: the flow of fluids either liquid or gas; the flow of heat either by contact or radiation; and also with chemical reaction as in fuel mixing with air to give hot exhaust gases.

57. DR. HAN CHANG 45
3629 Cal-Ken Drive
Murrysville, PA 15668
(412) 325-2585

Energy conversion and conservation.

63. COMMONWEALTH RESEARCH CORP. 6, 14, 21, 22, 25, 31, 32,
11800 Sunrise Valley Drive 37, 40, 45, 58, 60, 68, 72,
Reston, VA 22091 80, 86, 102, 108, 118
Richard J. Taylor, Sr. Associate
(703) 620-3999

Transportation Systems Consulting. Railroad development. State and Local planning. Analytical services.

64. COMPUTER CORPORATION OF AMERICA
575 Technology Square
Cambridge, MA 02139
James B. Rothnie, Jr. (617) 491-3670

(No expertise submitted at time of printing)

65. COMPUTER GENETICS CORP. 6, 21, 23, 28, 47, 70, 74,
18 Lakeside Office Park 83, 89, 90, 93, 106, 108
Wakefield, MA 01880
Bernard Caputo, Pres. (617) 246-2838

REMOTE SENSING: (1) water subsurface temperature and salinity, hazardous materials, oils and pollution in water, (2) atmospheric humidity, density, composition, pollution field studies, oceanographic research vessel and mobile laser van. ENGINEERING PHYSICS/ELECTRO OPTICS: optical diagnostic development; laser applications, design and fabrication of prototypes; scientific and industrial measurement and control instrumentation, gas laser design and development organization. REAL TIME SYSTEMS ENGINEERING: digital data acquisition, airborne and field systems process control, hardware and software systems, control and data processing, automated densitometers, drill ship, and combustion systems. APPLIED MATHEMATICS: computer simulation techniques, data reduction and analysis methods, data base management, information retrieval.

66. COMPUTER HORIZONS, INC. 21, 23, 32, 37, 58, 68, 81,
1050 Kings Highway North 93
Cherry Hill, NJ 08034
Francis Narin, Pres. (609) 779-0911

R&D evaluation consultants, EDP consultants with background in mathematics, physics, chemistry, biomedicine, sociology, economics, library/information science, computer science and statistics. Computational facility: PDP 11/40 with 56k (bytes) useable core, 2 IBM compatible tapes, cartridge disks, line printer, card reader and paper tape reader/punch. Technical staff in Washington, D.C. also.

67. CONTAX 45, 81, 91
P. O. Box 740
Silver Spring, MD 20901
Carolyn Bloch, Pres. (301) 622-4351

Research information in the areas of government procurement, occupational safety and energy. Perform government market research.

68. CONTEMPORARY SYSTEMS, INC. 45, 103
68 Charlonne Street
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John C. Christopher, Pres.
(603) 532-7972 or 532-7038

Manufacturers of an integrated warm air solar space heating system.

76. DESIGN ALTERNATIVES, INC. 8, 23, 27, 28, 36, 38, 39,
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Washington, DC 20036 103, 109, 114
Eugene Eccli, Pres. (202) 223-0830
Engineering, Program Design and Evaluation, and Policy Research in Energy
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77. DESIGN-DEVELOP-SUPPLY 78, 103, 107, 113, 119
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Research and consulting firm established in 1960 providing services in
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79. DOBLE ENGINEERING CO. 24, 49, 70, 110, 111, 113
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material for resistivity, dielectric strength, dielectric constant, leakage.
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circuit breakers, bushings, arresters and other electrical apparatus. Re-
cently completed extensive evaluation programs for Exxon and Gulf Oil.
In addition to providing test methods and equipment, sponsors an annual
conference to promote system operation and maintenance techniques.
80. DONALDSON CO., INC. 2, 51, 95
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P.O. Box 1299
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Thomas Donnelly, Program Mgr. (612) 887-3485
Gas and liquid filtration. Particle technology. Classifiers. Pulverizers.
Acoustics.
81. DOTY ASSOCIATES, INC. 2, 37, 40, 44, 47, 80, 87
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chanical and acoustical engineering. Mathematics, statistics, economics
and operations research.

89. ELECTRO-SCIENCE LABORATORIES Inc. 3, 16, 17, 24, 44, 79, 82,
2211 Sherman Avenue 103
P. O. Box 596
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Dr. Sidney J. Stein, Pres. (609) 663-7777

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90. ELECTROCHEMICAL TECHNOLOGY Corp. 10, 17, 24, 27, 29, 34, 41,
3935 Leary Way, N.W. 45, 47, 80, 103
Seattle, WA 98107
Theodore R. Beck, Pres. (206) 632-5965

Areas of interest are contract research and development and consulting in the field of electrochemical engineering, including corrosion processes and control, batteries and fuel cells, industrial electrolytic processes, and electrochemical devices. Capabilities include laboratory and pilot plant testing, mathematical modeling, and process studies.

91. ELECTRONIC ASSOCIATES, INC. 6, 12, 20, 80
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Gary Kittler (201) 229-1100

Mathematical modeling and simulation in aerospace, biomedical and communication areas.

92. EMERGENCY CARE RESEARCH INSTITUTE
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Plymouth Meeting, PA 19462
Darrell Foreman

(No expertise submitted at time of printing)

93. ENERGY DEVELOPMENT RESEARCH 17, 20, 23, 26, 28, 41, 44,
727-B N. Gordon Street 45, 47, 70, 99, 101, 103,
Pomona, CA 91768 108, 110, 111, 112, 112A,
Arnold T. Lloyd, Pres. (714) 629-4437 113, 113A, 123

Energy Development Research consultant specializing in energy related technologies. Electrochemistry. Electric/Electronic Systems Engineering. Instrumentation Techniques. Systems Integration.

94. ENERGY DYNAMICS CORP. 45, 103
6062 E. 49th Avenue
Commerce City, CO 80022
Michael McLaughlin, Pres. (303) 287-0149

Manufacturer of solar components. Solar grants.

95. ENERGY RESOURCES CO.
185 Alewife Brook Parkway
Cambridge, MA 02138
Henrietta Gates

(No expertise submitted at time of printing)

103. WILLIAM G. FLORENCE 67, 68
 400 Haddon Avenue—Apt. 503
 Haddonfield, NJ 08033
 (609) 429-1598
 Expert Consultation on Government Security Classification Policies;
 Industrial Security Procedures; Export licenses for Technical Informa-
 tion; Elimination of Unrealistic and Unnecessary Secrecy.
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 4250 E. Broadway 88, 96, 101, 103, 108, 116
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 Phoenix, AZ 85036
 Edward E. Francisco, Pres.
 (602) 268-8776
 Develops and manufactures fluid flow measurement and related calibration
 equipment.
105. ALBERT G. FONDA 1, 25, 28, 47, 66, 72A, 75,
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 King of Prussia, PA 19406
 (215) 687-3311
 Consultant in Design and Dynamics of Mechanisms and Vehicles. Accident
 Investigation. Product Liability. Litigation. Testimony. Servomechanism
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106. FULMER RESEARCH INSTITUTE
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 Washington, DC 20005
 K. J. O'Connor (202) 638-2652
 (No expertise submitted at time of printing)
107. GENERAL ENERGY DEVICES 45, 103
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108. GENERAL TECHNICAL SERVICES, INC. 12, 25, 31, 36, 37, 58, 63,
 8794 West Chester Pike 72, 93, 114
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 Arthur S. Iberall (215) 449-2333
 Samuel Z. Cardon
 Extensive background in interdisciplinary R&D and general systems science
 in biomedical sciences including biophysics, biomodelling and bioinstrumen-
 tation; urban transportation; cybernetics; global ecology and economic
 theory; hydrodynamics; and thermodynamics.
109. GEOCHEM LABORATORIES 9, 59, 89, 95
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 Houston, TX 77043
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 Organic geochemical analyses; source rock evaluation; crude oil source
 rock correlation; crude oil characterization; geochemical prospecting;
 hydrocarbon baseline studies; marine pollution monitoring.

117. HITEC CORPORATION
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Westford, MA 01886
Diane Roland

(No expertise submitted at time of printing)
118. ROSS HOFMANN ASSOCIATES 27, 45, 48, 65, 81, 95,
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119. HOYLE-TANNER & ASSOCIATES
1 Technology Park
Londonderry, NH 03053
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(No expertise submitted at time of printing)
120. HUMAN SCIENCES RESEARCH, INC, (HSR) 20, 23, 25, 27, 45, 62, 64,
7710 Old Springhouse Road 68, 81, 102
Westgate Research Park
McLean, VA 22101
M. Dean Havron, Pres. (703) 893-5200, Ext. 32
William W. Chenault, Vice President, Ext. 53
(Principal Contact)

Fields: Applied Social Science Research in areas of program development;
evaluation; survey research; equal opportunity analyses; health care
delivery, product labeling; energy conservation; training; performance
evaluation, management information systems; and disaster preparedness
planning. Staff holds advanced degrees in psychology, communications,
political science, statistics, sociology, industrial management, health
education, criminal justice, and anthropology.
121. JOHN P. HUMPHREY 19, 21, 45, 47, 53, 92, 103
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Computer simulation. Small computer applications. Process and Pilot
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tion of instruments for commercial production and commercial manufac-
ture of equipment.
133. ISRAELI INDUSTRY CENTER FOR R&D 12, 47, 70
(IICRD)
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(03) 47 15 69
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dustry in Israel and to encourage industrial R&D. IICRD incorporates most
of the R&D and high technology companies in Israel, and has close working
connections with scientists dealing with applied research, Universities and
the Government of Israel.
134. ITHACO, INC.
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Ithaca, NY 14850
E. W. Seymour
(No expertise submitted at time of printing)
135. J-TEC ASSOCIATES, INC. 5, 8, 19, 20, 28, 44, 45, 48,
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Cedar Rapids, Iowa 52406
Theodore A. Johnson, Pres. (319) 366-7511
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154. C. H. LUHRS & CO. 42, 49
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155. MBAssociates 2, 5, 6, 7, 15, 17, 19, 103,
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157. McLAUGHLIN RESEARCH CORP. 22, 32, 44, 45, 50, 68, 87,
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and the implementation handbooks for those systems.
158. Mac ARTHUR RESEARCH CO.
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Malvern, PA 19355
Arthur MacArthur
(No expertise submitted at time of printing)
159. A. Mac DONALD ENGINEERING 40, 45, 82
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A. MacDonald (312) 256-4688
Energy conservation; Metal processing; Industrial foundries die casting.
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design of operator/maintainer work stations for maximum cost-effective-
ness; analysis of training requirements and design of training programs,
(continued)

165. MASSACHUSETTS SCIENCE AND TECHNOLOGY FOUNDATION 12, 14, 19, 45, 48, 60, 75, 78, 103, 109, 117, 119, 123
 10 Lakeside Office Park
 Wakefield, MA 01880
 Irving Sacks, Acting Director (617) 246-1250

Service agency dedicated to furthering the economic well-being of Massachusetts through improved liaison with the outstanding scientific and industrial communities in the Commonwealth. Within the scope of science and technology, activities may take many forms, but in each instance, the main objective will be to solve unavoidable and critical technical problems, and stimulate the general economy. It is the policy of the Foundation not to duplicate services and facilities available elsewhere within the Commonwealth, but rather to perform its function through the medium of existing talent and resources wherever possible. ACTIVITIES INCLUDE: Technology Exchange; Advisory Service; Program Management; Technology Grants; Study Initiation; Meeting Support.

166. MASSDESIGN ARCHITECTS & PLANNERS 27, 45, 61, 97, 103, 109
 138 Mt. Auburn Street
 Cambridge, MA 02138
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Energy Conservation Consultants. Energy; Graphic Arts; Publishers; Solar Energy; Technology Transfer.

167. MATA-CHEM RESEARCH CORP. 17
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 Cherry Hill, NJ 08034
 Dr. Ralph Matalon (609) 667-8233

Chemistry. Manufacturer of perfume.

168. MATHEMATICAL SCIENCES NORTHWEST 37, 45, 48, 74, 80
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169. MEGA ANALYTICAL RESEARCH SERVICES 5, 40, 47, 77, 90, 107
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171. MET ELECTRICAL TESTING CO., Inc. 12, 26, 40, 49, 111
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 Technology assessment. Power Plant Siting. Mechanical, electrical and hydraulic systems. Science and law.
178. WILLIAM M. MOSCRIP 16, 47, 53, 72A, 74, 79,
 Route 2, Box 474 87, 94, 121, 123
 Fredericksburg, VA 22401
 (703) 775-7207
 Inventor. R&D in mechanical/electrical/materials science area. Naval science; Naval weapons; interior ballistics; guided projectiles. Hardware prototype development. Prestressing refractory brittle materials to be used in gun barrels; projective/missile control fin actuator. Wind energy conversion. Stirling engine design; gas turbine design; synthetic fuel processes; thermal energy storage; heat pipe technology; solar pond design. High temperature ceramics; amorphous metals. Machine design; automotive design; fluid power generation; ship design, high speed hydrofoils. Gun design technology; precision guided ordnance; high energy lasers.
179. MULTISYSTEMS, INC.
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 Cambridge, MA 02138
 Carole J. Berkson (617) 864-5810
 (No expertise submitted at time of printing)
180. NATIONAL TESTING SERVICES
 1905 Chapel Hill Road
 Durham, NC 27707
 Carol Hill
 (No expertise submitted at time of printing)
181. NAVAL AIR DEVELOPMENT CENTER
 Street & Jacksonville Roads
 Warminster, PA 18974
 Rose G. Mandrack
 (No expertise submitted at time of printing)
182. NORTHWEST RESEARCH AND 3, 24, 27, 96, 99, 108, 113,
 COUNSELING SERVICE 114
 P. O. Box 461
 Richland, WA 99352
 Amos F. Warren, General Manager
 (509) 967-3684
 Research and consultants specializing in roofing problems, epoxy floor problems and waterproofing problems. In-plant seminars. Seminars by invitation.
183. O'DONNELL & ASSOCIATES, INC. 1, 2, 19, 21, 24, 45, 47,
 5100 Centre Avenue 63, 79, 82, 88, 93, 96, 103,
 Pittsburgh, PA 15232 107, 112, 113
 William J. O'Donnell, President
 Ray G. Fasiczka, Vice President
 (412) 687-7715
 Engineering design and analysis services. Activities include stress analysis and certification of components, dynamic and seismic analysis, elastic and plastic analysis, nuclear fuel studies, reliability analysis, systems
 (continued)

192. JAMES L. PLUMMER 14, 37, 45
8913 Footstep Court
Annandale, VA 22003
(703) 978-2911
- Economic modeling; benefit cost analysis; risk-benefit analysis; energy economics; environmental economics.
193. POLYSCIENCES, INC. 12, 13, 17, 24, 33, 43, 81, 94
Paul Valley Industrial Park
Warrington, PA 18976
Dr. B. David Halpern, Pres.
(215) 343-6484
- Consultant and sponsored research in polymers, monomers, production, market development, formulations, applications and evaluation for all areas of plastics use. Specialties in medical and dental polymers, contact lenses, enzyme substrates, implant polymers, FDA materials, acrylics, PVC, polyvinyl alcohol, water-soluble polymers, thermosets, adhesives, latices, forest products, coatings, textiles and new monomers. 20,000 sq. ft. laboratories with full synthetic and pilot capability. Current confidential client relationships with major and small companies.
194. PRESEARCH, INC. 2, 21, 22, 23, 25, 32, 40, 45, 47, 48, 58, 64, 65, 68, 71, 77, 80, 81, 87, 88, 89, 93, 99, 103, 108, 121
2361 S. Jefferson Davis Hwy.
Arlington, VA 22202
Leonard P. Gollobin, President
(703) 920-5740
- Performs studies and analyses and provides inputs for management decision-making; largely for the Department of Defense. Specific areas include naval warfare; strategic studies and projections; resource management (manpower, personnel and training, costing); and data processing support including systems analysis and programming.
195. PRODUCT RESOURCES INTERNATIONAL 3, 10, 17, 18, 35, 69, 109
90 Park Avenue
New York, NY 10016
Eugene F. Whelan (212) 682-2966
- Represent selected inventors on a no-fee, share-of-the-action basis. Also conducts invention-searches on behalf of companies in return for a fee paid by the company(s). (The inventor or technology owner pays nothing.)
196. PRODUCTION COMPONENTS, INC. 45, 46, 47, 76, 103, 118, 123
Building I, El Tesoro Road
P.O. Box 7
Ranchita, CA 92066
E. S. Christensen, Pres. (714) 782-3339
- Precision Machining—Tool and Die work. Thirty-two years in business of designing and building specialized machines-dies-equipment and processes. Holder of patent on thermal engine. Others pending.
197. PYROMET INDUSTRIES 3, 6, 7, 9, 15, 16, 19, 24, 45, 46, 47, 49, 74, 76, 79, 82, 88, 99, 103, 113, 119, 121
595 Industrial Road
San Carlos, CA 94070
Tom Hikido, Vice President
(415) 591-7161, Ext. 35
- Brazing and heat treating. Metallurgical research & development. Production of aerospace hardware. Refurbishment of jet aircraft engine parts.

204. RESEARCH DYNAMICS, INC. 12, 41, 44, 93, 106
 P.O. Box 65, Village Station
 New York, NY 10014
 Dr. Raymond DiMartini, Director

Electrochemistry, spectroscopy and biomedical instrumentation. Multi-disciplined research services are offered within these fields by utilizing contemporary microelectronics technology with novel interpretations of fundamental physical principles. Physical and chemical parameters of problems are investigated and interpreted in terms of up to date technological literature available and in terms of the development required to attain a specific goal or produce a specific device. Traditional approaches are critically reviewed and evaluated in relation to the interpretation developed.

205. ROCKVILLE CONSULTING GROUP, Inc. 14, 37, 69, 72, 78, 102,
 505 Second Street, N.E. 109, 117
 Washington, DC 20002
 Stuart A. Lichtman, President
 (202) 543-1040

Support to venture capitalists and other investors dealing with high technology firms.

206. ROOT DEVELOPMENT CORP. 9, 12, 17, 81
 Orentreich Medical Group
 909 Fifth Avenue
 New York, NY 10021
 Dr. Joseph H. Vogelman (212) 794-0835

Biomedical instruments and processes in endocrinology, heart measurements, thyroid responses, chemical responses. Measure blood levels, hormone levels, analysis of dermatological effects of household remedies on skin. Analysis of products for allergy potential. Computerized electrocardiograms.

207. GEORGE KNOX ROTH
 P.O. Box 811
 Claremont, CA 91711
 (714) 624-4801

(No expertise submitted at time of printing)

208. ROTHENBUHLER ENGINEERING CO. 20, 28, 40, 47, 77, 101,
 Rhodes Road 103, 112, 123
 P.O. Box 192
 Sedro Woolley, WA 98284
 Howard Rothenbuhler, Pres. (206) 856-0836

Originally founded to build radio control systems for the Forest Products Industry, company has grown to manufacture bank alarm systems, intrusion detection, scanning and monitoring equipment and single side band radios as well as the Talkie Tooter remote 2-way radio. Engineering testing, consulting, and custom engineering and manufacturing in the electronics field are also offered with recent emphasis on wind generators and energy conservation.

B & S Screw Machine Products
a division of SGL Industries, Inc.
204 North Chester Pike
Glenolden, PA 19036
(215) 724-4366

Manufactures metal and plastic screw machined parts.

SGL Plastics
Route 248
Nazareth, PA 18064
(215) 759-0280

Produces custom components parts, through the injection molding, profile, and sheet extrusion processes.

SGL Graphics
John Fitch Industrial Park
Warminster, PA 18974
(215) 672-3600

Produces fiberglass signs and displays through the proprietary Modulite^R and Moducal^R processes which offer superior resistance to vandalism, sunlight, chemical fumes and weather.

SGL Homalite
11 Brookside Drive
Wilmington, DE 19804
(302) 652-3686

Produces crystal-clear and colored plastic sheets, tubes, and rods. HomaliteTM plastics exhibit superior resistance to abrasion, impact and radiation. Produces Homalite-LR (low-glare) instrument panels and faceplates.

SGL Modern Creative
35 Market Street
Elmwood Park, NJ 07407
(201) 791-7700

Provides services to coat, frost and print glass and plastic containers.

SGL Modern Hard Chrome Service
Cover & River Roads
Pennsauken, NJ 08110
(609) 665-8600

Provides hard chromium, electroless nickel and copper plating.

SGL LUBE/systems
280 Midland Avenue
Saddle Brook, NJ 07662
(201) 791-6200

Manufacturer of automatic grease feeders used in industrial applications.

216. SHAKER RESEARCH CORP. 2, 6, 21, 26, 27, 40, 44,
Northway 10 Executive Park 45, 47, 51, 70 112, 115
Ballston Lake, NY 12019
John M. McGrew, Pres. (518) 877-8581

Structure and airborne vibration data processing; machinery and structural dynamics; high performance bearing design and analysis; lubrication; seal design and analysis; acoustic and mechanical vibration analysis; machinery design reviews; machinery failure protection.

- 216A. ALBERT SHAPERO 14, 37, 39, 78, 102
Ohio State University
Columbus, OH 43210

As of May 1978, William H. Davis Professor of American Free Enterprise System, Ohio State University, Columbus, Ohio. Formerly, Professor of Management at the University of Texas at Austin, Austin, Texas since December 1966 and a member of the Graduate Faculty of the School of Library and Information Science. He has been Chairman of the University of Texas' Department of Management, visiting faculty member of the International Institute for the Management of Technology in Milano, Italy (IIMT), and Director of the Technology Management Division at Stanford Research Institute. At Stanford, he was principal investigator and project leader or participant in a large number of research projects. As Director of Technology Management Programs, he developed and headed a multidisciplinary research organization that was concerned with the application of systems approaches to the solution of complex problems.

217. SHEPARD LABORATORIES 20, 21, 26, 28, 32, 40, 44,
19 Morris Court 46, 68, 69, 101, 108
Summit, NJ 07901
F. H. Shepard, Jr., Consulting Engineer
(201) 273-5255

Electronic-Electro-Mechanical Systems developed; computer peripherals; instrumentation & control; prototype construction.

218. RALPH L. SHERMAN 12, 17, 80, 81, 93
1019 Coronado, #25
Imperial Beach, CA 92032
(714) 429-7966
d/b/a J. M. Richards Laboratory
15133 Kercheval Avenue
Grosse Point Park, MI 48230

Biophysics. Biochemistry. Bioengineering. In abstracto modeling of hormonal, biochemical and bioelectrical factors associated with nonperiodic oscillations of CNS excitability; they serve as a foundation for continuing research in quantifying brain function in health/disease. Mathematical analysis of longitudinal EEG studies in clinical patients.

219. SHRADER ANALYTICAL LABORATORIES 9, 17, 18, 55, 92, 95, 110
3450 Lovett Avenue
Detroit, MI 48210
Dr. Stephen Shrader, Pres. (313) 894-4440

Analytical chemistry consultants. Specializing in identification of unknown materials—pollutants, drugs, contaminants in industrial products; experts in mass spectrometry and gas chromatography.

250. TRANTECH CORPORATION 97, 109
P. O. Box 310
Newton, MA 02160
Martin Himmelfarb (617) 964-0699
Publishers. Technology Transfer.
251. TREADWELL CORPORATION 41, 45, 47, 48, 119
1700 Broadway
New York, NY 10019
J. A. Johnson, Sr. Vice President
(212) 262-3120
Integrated engineering-construction firm with expertise in the ferrous and non-ferrous metals industries. Also has unique qualifications in electro-chemistry and is the only producer of electrolytic oxygen equipment for nuclear submarines.
252. TREADWELL CORPORATION 41, 45, 47, 48, 119
1700 Broadway
New York, NY 10019
John M. Schreiner (212) 262-3120
Integrated engineering-construction firm with expertise in the ferrous and non-ferrous metals industries. Also has unique qualifications in electro-chemistry and is the only producer of electrolytic oxygen equipment for nuclear submarines.
253. UNIFIED INDUSTRIES, INC. 25, 48, 99, 107, 108, 112, 118
205 S. Whiting St. — Suite 201
Alexandria, VA 22304
Walter L. Ambrose, Procurement Mgr.
(703) 751-2200, Ext. 69 or 79
A minority-owned, small business corporation furnishing competent and reliable systems engineering and technical support services to government and industry. Structured with no proprietary interest in hardware, providing an environment for objectivity through an unbiased approach. Application of specialized disciplines in the electrical, electronic and mechanical fields provides for support services in a wide range of technologies.
254. UTILITY RESEARCH CO. 3, 17, 24, 94
98 Greenwood Avenue
P.O. Box 107
Montclair, NJ 07042
Harry S. Katz (201) 744-8259
Consulting and R&D on plastic materials, advanced composites, adhesives, elastomers; formulation, prototype and shortrun molding and production liaison.
255. VAN ALLYN, INC. 45, 72A, 122
310 East 44th Street
New York, NY 10017
Wayne P. LeVan, Pres. (212) 986-0550
Franchisor of inventions, U.S. and foreign, involving the use of vehicular traffic to generate electricity without the use of energy fuel using only the weight of vehicles.
256. VENCON MANAGEMENT, INC. 14, 23, 37, 53, 60, 64, 78, 92, 94, 117
730 Fifth Avenue — Room 918
New York, NY 10019
Irvin Barash, Pres. (212) 581-8787
Evaluates entrepreneurs, technology, markets, businesses, and arranges for equity and debt capital. Analyzes plant site locations and identifies and studies acquisition candidates.

263. WESTWOOD RESEARCH LABORATORY 9, 12, 23, 24, 33, 78, 81,
543 High Street 94, 110, 113
Westwood, MA 02090
John Cornell (617) 326-3965
- Independent dental research lab servicing clients in oral hygiene, chemical, drug and food industry. Specializes in developing models for dental disease, devise testing conditions which parallel those occurring in the mouth. Sets up screening programs which increase the chances for successful clinical investigation. Dental materials research, development and testing including specification testing. Specializing in polymeric materials.
264. WHEELER INDUSTRIES, INC. 2, 12, 13, 22, 23, 25, 27,
1129 - 20th St., N.W.—Suite 403 63, 77, 87, 89, 91, 95, 103,
Washington, DC 20036 108, 109, 110, 112, 119
E. Joseph Wheeler, Jr., Pres.
(202) 659-1867.
- Involved in advance research and development planning in support of naval ship systems, underwater systems, and energy and environmental protection systems. Specializes in oceanographic and environmental research, as well as systems engineering for ship, air, electronic, mariculture and deep ocean systems.
265. WILFORD AIRCRAFT CORP. 5, 6, 77
300 Linden Lane
Merion Station, PA 19066
E. Burke Wilford (215) 664-1220
- Aero architecture. Marine engineering.
267. GLEN W. WILTROUT (Consultant) 14, 27, 39, 60, 69
2028 N. Vermont Street
Arlington, VA 22207
(703) 528-9166
- Government contract administration. Administrative management. Energy conservation education. Represents technical innovators (mechanical).
268. WIND-DE-GO, INC. 28, 44, 45, 72A, 78, 81,
1940 W. Cheryl 103, 123
Phoenix, AZ 85021
E. K. Hillman, Pres. (602) 943-0439
- Performs first stage R&D on inventions for cost analysis. Develop control systems for hybrid solar/wind configurations. Co-develop product research on pain relief. Formulate marketing policy. Inventor.
269. WIND ENERGY RESOURCE DEVELOPMENT 4, 5, 16, 29, 30, 42, 44,
P. O. Box 324 69, 78, 90, 94, 101, 103,
Bennett, CO 80102 108, 117, 123
Leslie J. Mathis, Pres. (303) 644-3710
- Engages in the design of wind energy systems and subsystems.
270. WOLCHUK AND MAYRBAURL 47, 107
432 Park Avenue South
New York, NY 10016
Roman Wolchuk (212) 689-0220
- CONSULTANTS. Civil Engineering. Steel plate structures. Service platforms. Hoists. Stationary offshore oil drilling platforms. Transmission towers. Transformer foundations. Underground transformer vaults.

AMERICAN ASSOCIATION OF SMALL RESEARCH COMPANIES
MEMBERS DIRECTORY

Additional Members

- 14A. APPLIED BIOLOGICAL SCIENCES LABS. 9, 12, 13, 17, 35, 66, 81, 84,
6320 San Fernando Road 89, 110
P.O. Box 3218
Glendale, CA 91201
Dr. J. B. Michaelson, Director
(213) 245-1318

Toxicity Testing Laboratory; Bio-assay; Pharmacology; Toxicology; Microbiology; Marine Biology; Chemistry; Forensic Medicine; Nutrition; Pathology; Water Analyses. R&D in biology and medicine; fish and wild life toxicology. Preparation of IND's and NDA's. Consultation on GMP's and GLP's.

- 30A. JOHN H. BANKS LABORATORIES 9, 16, 17, 19, 36, 59, 82, 99,
49 Cannonball Road 106, 110, 113
Pompton Lakes, NJ 07442
Bruce P. McCloskey, Pres. (201) 839-3450

Analytical chemistry in the inorganic field including x-ray fluorescence, emission spectrography, spectrophotometry, atomic absorption spectrophotometry, and general wet chemistry.

- 82A. DYNA EAST CORPORATION 6, 24, 47, 80, 113, 121
227 Hemlock Road
Wynnewood, PA 19096
Joseph Carleone, Chief Engineer
(215) 386-4885

Specializes in various aspects of ballistics, explosive-systems technology, composite materials, and computer-software development. Present areas of expertise include Engineering R&D of shaped charges, explosive-metal systems, composite materials, underwater explosions, ship-hull protection, impact and penetration. Warhead design is also a major interest. Recently developed a modern warhead synthesis procedure applicable to many types of conventional warheads.

- 90A. ELECTROFRAC CORPORATION 19, 45, 70, 75, 78, 110, 111,
308 W - 99 Terrace 112, 123
P.O. Box 8558
Kansas City, MO 64114
Erich Sarapuu, Pres. (816) 942-5965

Electro-energetic enhanced oil recovery systems, in situ electro-energetic processing of fossil fuels (tar sand, coal, oil shale, Devonian shale). Electrical rock fragmentation systems - developments, manufacturing equipment.

173B. MIDLAND ENERGY INSTITUTE 27, 39, 45, 97, 103, 123
906 Grand Avenue—Suite 100
Kansas City, MO 64106
Glen Hand, Executive Director
(816) 842-2459

(No further expertise submitted)

197A. QUAD CORPORATION 18, 27, 45, 47, 48, 54, 84,
1852 Dale Avenue 95, 99, 108, 109, 119
Highland Park, IL 60035
Harold J. Rafson, Pres. (312) 432-3210

Air Pollution Control Systems: odor control, particulate removal, energy recovery from emissions. Food Sanitation Systems: continuous process sanitizing, direct application on foods, equipment and facilities. Food Process Engineering. Energy Recovery: from emissions; through process modifications. Refrigerated Facilities Design. Food Manufacturing and Procurement Quality Assurance Systems.

201A. RAPIDEX, INC. 19, 47, 76, 103, 118, 123
8 Ray Avenue
Burlington, MA 01803
Robert E. Wallhagen, Project Manager
(617) 273-2102

Specializes in Research and Equipment Design and Development in the Coal and Hard-rock mining industry. Active areas of interest include drilling, mining, tunneling, crushing, concrete forming, and heavy equipment development.

204A. JOHN S. ROBERTS, Ph. D. 9, 10, 14, 20, 21, 22, 23, 60,
Technology Development Consultant 68, 69, 79, 82, 94
17 Shattuck Street
Natick, MA 01760
(617) 653-8505

Practice directed at improving the effectiveness of the R&D function of smaller manufacturing firms. Services include assembly, co-ordination and control of R&D programs for companies with limited or non-existent "in-house" R&D facilities; technological forecasting; technology transfer; quality assurance analysis; formation of funds for R&D programs; analysis of the overall innovative process of the firm. Dr. Roberts, a Senior Scientist at the Worcester Foundation, has been a research director and consultant in the biomedical field for over ten years. He has published numerous technical articles and has lectured extensively at universities here and abroad. In addition to his extensive training and experience as a scientist and administrator, Dr. Roberts had an early background in economics and business. He has served as a consultant to small enterprises in fields as diverse as chemicals, pharmaceuticals, food services, educational materials and automobile accessories.

222A. SISA, Incorporated 12, 17, 23, 35, 49, 55, 70,
767B Concord Avenue 81, 110
Cambridge, MA 02138
Dr. Harry G. Pars, Pres. (617) 354-2800

Principal purpose of the corporation is to engage in laboratory research and development, and in commercially developing drugs from conception through Phase II clinical trials. Current areas of interest include non-addicting analgesics and sedative hypnotics, anti-hypertensive agents, anti-convulsants, anti-diarrheals, anti-glaucoma agents, anti-anxiety drugs, tranquilizers, broad spectrum anti-biotics and drugs useful in the treatment of narcotic addiction.

237A. SURFACE TECHNOLOGY, INC.

17, 24, 29, 41, 44

3684 U. S. Highway #1
P. O. Box 2027
Princeton, NJ 08540
Dr. Nathan Feldstein, Pres. (609) 452-2929

R&D of plating applications, in particular in chemical plating for the electronics industry. Process development for improved reliability and decreased pollution. Miscellaneous specialty solutions as well as manufacturing capabilities of specialty items.

255A. VECTOR RESEARCH, INC.

45, 48, 65, 80, 81, 108

2536 Packard Road
P. O. Box 1506
Ann Arbor, MI 48106
Cynthia J. Sorensen, Director of Administration
(313) 973-9210

Independently-owned company organized to assist government and industry in the structuring and solution of complex operating and planning problems. Primary applications areas are defense, energy and health.

270A. WOODS R&D

15, 17, 21, 32, 36, 59, 69,
117

1 E. King Street
P. O. Box 1016
Yakima, WA 98907
Jay Woods, Manager (509) 452-9133

Pesticide formulation; particle size reduction; agricultural by-products; natural plant products; computer applications; basalt mineral utilization.

- 97A. ESSEX RECON CORPORATION 65, 76, 116, 123
 310 Erie Street
 Lancaster, NY 14086
 David W. Birch, Pres. (716) 684-4470

Work in electronics has been in R&D accoustically sensitive alarm devices and radio signals that will conform to new FCC regulations. Product engineering has consisted of improvements in a prototype archery release and a series of medical implements to make them more effective in applications and more attractive for sales, and several special adaptations of valves to suit specific customer requirements. Manufacturing processes include designing and building a large scale material handling interface system for Westinghouse LRA plant in Pittsburgh and a method of forming small tubes from the inside - out.

- 103A. Center for Educational Technology 20, 39, 62, 64, 81, 108, 109
 FLORIDA STATE UNIVERSITY
 1-A Tully Gym
 Tallahassee, FL 32306
 Dr. Robert K. Branson, Director, CET
 (904) 644-4720

The Center for Educational Technology is committed to research and development efforts in the area of instructional design and development. The emphasis is on the most effective and efficient use of systems design principles and state-of-the-art technology in developing curricula and courses, instructional materials, and in program planning, management and evaluation.

- 136A. T. JAYNE CO. 1, 5, 6, 7, 12, 13, 17, 23, 24,
 10234 Johnnycake 26, 27, 28, 29, 41, 42, 43, 45,
 Painesville, OH 44077 46, 48, 53, 57, 58, 63, 70, 72,
 Ted D. Jayne, Consultant 74, 77, 82, 87, 89, 90, 93, 94,
 (216) 357-5060 101, 103, 106, 107, 108, 115,
 116, 118, 119, 123, 124

Applied Research and Technical Consulting aid for industry research and engineering groups. Consultants are available for a wide range of disciplines. Areas of interest are not limited, but points of view taken are limited to those of natural science.

- 144A. KOOGLER & POULS ENGINEERING 23, 47, 50
 8338A Comanche, N.E.
 Albuquerque, NM 87110
 H. G. Koogler, Pres. (505) 294-5051

Company is not involved in direct research or equipment development. Provide a consulting service in photogrammetric and related civil engineering and surveys. Firm uses and is highly interested in all new research and developments related to its field of activity.

- 173A. MICRO CRAFT, INC. 6, 28, 70
 207 Big Springs Avenue
 P.O. Box 370
 Tullahoma, TN 37388
 R. L. Kilts, Administrative Asst.
 (615) 455-2664

Design and fabrication of precision scale-size models of airplanes and space vehicles to be used in wind tunnel testing for aerospace R&D programs. (Includes force and pressure instrumentation, control systems, and mounting systems.)

271. DONALD WORTH
336 Beacon St., Apt. 5
Boston, MA 02176

60

Employed by Massachusetts Department of Commerce & Development.
Presently working for a State Task Force on economic development in
Massachusetts of high technology companies.

272. DR. STANLEY W. ZEHR
1760 Lomas Avenue
Livermore, CA 94550
(415) 443-2541

79, 103, 108

Materials Science——interested particularly in high efficiency solar cell
development and device fabrication as well as overall systems design and
analysis.

257. **VERSAR, INC.** 9, 13, 15, 17, 19, 23, 24,
6621 Electronic Drive 25, 26, 30, 36, 37, 42, 47,
P.O. Box 1549 48, 55, 59, 66, 70, 74, 79,
Springfield, VA 22151 80, 82, 84, 89, 90, 93, 95,
Dr. Michael Markels, Jr., Pres. 106, 110, 112, 113, 119
(703) 354-3350
- High technology firm dealing in studies relating to environmental quality, resource recovery, energy research, materials research, applied physics, and life sciences.
258. **VERTREX CORPORATION** 27, 28, 44, 45
808 - 106th Ave., N.E.
Bellevue, WA 98004
Albert H. Rooks, Pres. (206) 455-4718
- Manufactures an electronic control device whose purpose is to reduce energy and cost consumption in building HVAC systems.
259. **VETERINARY RESOURCES AMERICAS** 8, 12, 13, 27, 32, 36, 45,
12930 North A1A 47, 48, 49, 51, 81, 84, 89,
Vero Beach, FL 32960 94, 103, 119, 123
Dr. M. L. Simmons, Pres.
- Consulting firm specializing in biomedical aspects of energy conservation and experimental animal facility design and program management. Veterinarians, designers, and engineers working together.
260. **VIRGINIA ENERGY OFFICE** 19, 45, 56, 103
823 E. Main St. —Room 300
Richmond, VA 23219
Louis R. Lawson, Jr., Director
(804) 786-8451
- Created by Governor Mills E. Godwin, Jr. in 1974 to serve as a focal point for energy related information, programs and planning for the State. **RESPONSIBLE FOR:** Keeping the Secretary of Commerce and Resources informed on energy developments and measures to minimize energy shortages in Virginia; Coordinating the flow of information between the various agencies of State government and working with the Federal and local governments and the private sector in implementing energy associated projects; Coordinating the development of energy plans and their strategies for implementation; Conducting action-oriented studies of alternative energy projects and programs; Developing and coordinating energy conservation programs for industry, commerce and private citizens; Cooperating with specific requests for the development of energy information, studies, projects, programs, or surveys; Maintaining continuous liaison with energy suppliers and distributors, agencies of other States and Federal agencies concerned with energy matters; Working closely with volunteer groups; and, Providing energy information to the public through the Virginia Energy Information and Conservation Center.
261. **WVS ENGINEERS** 19, 28, 34, 40, 45, 47, 56,
12248 Spring Trail 58, 70, 88, 92, 95, 103, 108,
Lakeview Terrace, CA 91342 114
William V. Susel, Pres. (213) 344-9936
- Engineering management.
262. **WESTERN SCIENTIFIC SERVICES** 70, 83, 108, 123
328 Airpark Drive
P.O. Box 1965
Ft. Collins, CO 80522
James F. Hedrick, VP (303) 482-3364
- Weather science, remote sensing, meteorological and environmental data monitoring system interfaced to satellite.

243. TECHNOLOGICAL INNOVATORS CO. 15, 27, 34, 45, 48, 54, 64,
21, 441 Highvale Trail 103, 107, 123
Topanga, CA 90290
Robert L. Woodbury, Chief Scientist
(213) 455-1721

Performs research, development and consulting in the field of Appropriate Technology (technologies that are ecologically and sociologically compatible), and require no petrochemical fuels, pesticides or non-renewable resources to make economic development possible.

244. TECHNOLOGY CLEARING HOUSE, INC. 68
1105 Market Street—Suite 801
Wilmington, DE 19801
Ernest Breton, Pres. (302) 658-7831

Publishers of New Technology Index. Will index clients technology by function to permit retrieval of information on new technology on the basis of the needs that it satisfies.

245. TELEDYNE ENERGY SYSTEMS 41, 45, 53, 73
110 West Timonium Road
Timonium, MD 21093
William C. Kincaide (301) 252-8220, Ext. 278

Engaged in the research and development and manufacture of electrochemical and thermoelectrical energy conversion devices, including water electrolysis systems, fuel cell systems, space power systems, and related equipment.

246. TENSOR INDUSTRIES, INC. 2, 4, 6, 22, 23, 25, 32, 40,
8415 Arlington Blvd. 44, 47, 58, 59, 60, 61, 64,
Fairfax, VA 22030 65, 68, 74, 77, 78, 81, 88,
Gaylord Leonard, Contract Mgr. 89, 99, 100, 101, 108, 111,
(703) 573-1204 112, 114, 118, 121

R&D activities center around systems engineering, reliability and maintainability, and systems acquisition management. A wide variety of engineering, technical and management skills are represented on its staff. Company has no hardware products.

247. THERMOTRON CORPORATION 14, 40
Kollen Park Drive
Holland, MI 49423
John J. Sexton, Pres. (616) 392-1491

Business Administration. Electrical Engineering.

248. TRANS-TECH, INC. 9, 10, 16, 17, 20, 24, 40,
12 Meem Avenue 42, 43, 44, 79, 82, 93, 94,
P.O. Box 457 99, 100, 111, 113
Gaithersburg, MD 20760
A. C. Blankenship, VP/Engineering
(301) 948-3800, Ext. 73

Producers of Microwave Materials; Ferrites, Garnets, Ceramic Dielectrics; Custom Research and Development Facilities; Diamond Wheel Machine Shop.

249. TRANS-TECH, INC. 9, 10, 16, 17, 20, 24, 40
12 Meem Avenue 42, 43, 44, 79, 82, 93, 94,
P.O. Box 457 99, 100, 111, 113
Gaithersburg, MD 20760
R. G. West, Sr. Staff Engineer
(301) 948-3800

Producers of Microwave Materials; Ferrites, Garnets, Ceramic Dielectrics; Custom Research and Development Facilities; Diamond Wheel Machine Shop.

232. STANDARD LABORATORIES, INC. 9, 17, 19, 23, 49, 99, 113
3322 Pennsylvania Avenue
Charleston, WV 25302
Dick Kelly, Technical Director
(304) 343-5173

Provides expert water and coal testing capabilities as well as innovative coal testing capabilities. Complete coal testing services include: sampling, proximate analysis, ultimate analysis of coal and coal ash, fluidity studies, and washability and/or preparation plant performance studies.

233. STANFORD RESEARCH INSTITUTE
1611 N. Kent Street
Arlington, VA 22209
Dr. William D. Theriault
(703) 524-2053, Ext. 366

(No expertise submitted at time of printing)

234. STEWART-TODD ASSOCIATES, INC. 12, 65, 66, 81, 96
No. 10 Valley Forge Executive Mall
530 E. Swedesford Rd., Suite #344
Wayne, PA 19087
Dr. W. Wayne Stewart, Pres. (215) 687-2030

Plan, develop and implement environmental health programs, nationally and internationally, including occupational medical programs; industrial hygiene surveys by certified Industrial Hygienists; toxicological test design, monitoring and interpretation. Biological and environmental health research, product safety and product liability. Expertise in training of occupational physicians, industrial hygienists and monitoring staff; augment client professional capabilities as needed.

235. T. E. STIVERS ASSOCIATES 47, 49, 60A
P. O. Box 608
Decatur, GA 30031
T. E. Stivers, Pres. (404) 378-1392

Basically R&D for mechanical processing of agricultural and food products and by-products.

236. STRUCTURE PROBE, INC. 3, 4, 9, 12, 16, 17, 24, 33,
535 E. Gay Street 43, 82, 94, 96, 106, 115
P.O. Box 342
West Chester, PA 19380
Dr Charles A. Garber, President
(215) 436-5400

Analytical and consulting laboratory equipped with some of the most advanced electron optical equipment available for materials analysis—including a combination Auger/ESCA/Scanning Auger Microprobe system for Surface Analysis plus electron microscopy (scanning and transmission), x-ray diffraction, and many other peripheral capabilities for complete materials research. Applications in failure and contamination analyses, on-line production problems, quality control, patent support, product liability in areas such as ceramics, metals, microelectronics, foods, fibers, cosmetics, air and water pollution.

237. SUGHRUE, ROTHWELL, MION, 75
ZINN & MACPEAK
1776 K Street, N.W.
Washington, DC 20006
G. Franklin Rothwell (202) 293-7060

Law: Patents and Procurement.

220. SIERRACIN CORPORATION 5, 17, 44, 45, 48, 93, 94
 12780 San Fernando Road
 Sylmar, CA 91342
 B. P. Levin (213) 367-6184
- Applied research directed toward heatable, anti-reflective coatings applied directly on plastic or glass substrates usable in heatable transparencies. Additional efforts fall into the areas of solar energy research, life cycle testing, environmental testing and flight environment simulation.
221. SIGNATRON, INC. 20, 23, 40, 80
 12 Hartwell Avenue
 Lexington, MA 02173
 Dr. Julian J. Bussgang, Pres.
 (617) 861-1500
- Consulting, research, development and system studies in electronic communications, radar, signal transmission and reception, mathematical modeling, performance test and evaluation, special purpose electronic instrumentation, digital interfaces, expert review and testimony.
222. ANATOLE J. SIPIN CO., INC. 2, 26, 40, 47, 48, 49, 66, 70, 95
 425 Park Avenue South
 New York, NY 10016
 Anatole J. Sipin, President
 (212) 689-2550
- Instruments to monitor organic solvents, vinyl chloride, and other toxic gases and vapors, personal pumps, charcoal and other sorbent tubes, gas collection bags, and direct reading colorimetric dosimeter tubes. R&D on medical devices, energy conversion devices, non-destructive testing, ultrasonics.
223. C. BRANSON SMITH 60
 Planning & Analysis
 U.S. DEPARTMENT OF ENERGY
 20 Massachusetts Ave., N.W.
 Washington, DC 20545
224. SOL ENERGY CORPORATION 45
 761 Rohde
 Hillside, IL 60162
 Joseph Kelly, Pres. (312) LI 7-5912
- Solar energy research & development. Facility at Rutland, Illinois to use solar energy to manufacture photovoltaic cells and a general education facility open to the public.
225. SOLAR INVESTORS ASSOCIATES 45, 103, 117
 325 Prospect Avenue
 Mamaroneck, NY 10523
 A. W. Adler, President (212) 952-9400
- Management and financial consulting. Venture capital with emphasis on alternative energy firms.
226. SOUTHWESTERN LABORATORIES 9, 15, 17, 19, 24, 43, 48, 51, 54, 55, 59, 79, 82, 95, 99, 103, 106, 110, 112, 113
 222 Cavalcade Blvd.
 P.O. Box 8768
 Houston, TX 77009
 Joe W. Jeanes, P.E., President
 (713) 692-9151
- Materials, Environmental, and Geotechnical Consultation and Contract Research; Fundamental Testing and Analytical Services.

210. STD RESEARCH CORPORATION 5, 6, 7, 17, 19, 21, 23, 24,
150 E. Foothill Blvd. 27, 34, 40, 42, 44, 45, 46,
P. O. Box "C" 47, 48, 49, 52, 57, 58, 63,
Arcadia, CA 91005 68, 70, 74, 78, 79, 80, 93,
Dr. John C. Cutting, VP 95, 103, 108, 111, 112, 113,
(213) 445-7000 114, 119, 122, 123

Analytical modeling and systems analysis of open cycle MHD. Detailed thermodynamics analysis of combustion liquefaction and gasification of coal. Interests: Conservation, oil, coal, gas utilization, solar energy.

211. SACHS/FREEMAN ASSOCIATES, INC. 20, 21, 22, 25, 32, 40, 42,
5809 Annapolis Rd. — Suite 512 44, 47, 61, 68, 71, 74, 80,
Bladensburg, MD 20710 86, 90, 93, 100, 108, 121
Ernest Freeman, President
(301) 927-4980

COMMUNICATION SYSTEMS: Public Safety; Emergency Medical; 911; Radio Common Carrier. ENGINEERING SERVICES: EMC; Specifications and Standards Development; ECM; Communication and Radar Systems Analysis; Electro-Mechanical Design; Laser/Optics; Design/Drafting. MANAGEMENT SCIENCES: ILS/CM/Training. COMPUTER SCIENCES: Systems Design and Specifications; ADP; Simulation/Modeling/Displays/Analysis.

212. SAMANIE, INC.
P. O. Box 694
Alexandria, VA 22303
Anne B. Bryan

(No expertise submitted at time of printing)

213. SCIENTIFIC ASSOCIATES, INC. 23, 45, 47, 114, 123
1639 - 12th Street
Santa Monica, CA 90404
Dr. Eugene B. Nebeker, President
(213) 451-1344

Performs R&D and consulting services within the general field of chemical and mechanical engineering. Typical activities involve both theoretical and experimental work in fluid mechanics, heat and mass transport, and thermodynamics. Primary ongoing activities are in development of original concepts for oil spill skimming in high seas, rock excavation with water jets; and wind-energy conversion. The company has also been engaged in industrial consulting on environmental impact studies.

214. SEAWARD INTERNATIONAL, INC. 48, 63, 77, 87, 89, 95
6269 Leesburg Pike
Falls Church, VA 22090
E. F. Daly, VP (703) 534-3500

Development of equipment for control of marine pollution, particularly that due to oil and hazardous materials. Search and recovery of lost underwater objects. General ocean engineering.

215. SERVICE ENGINEERING ASSOCIATES 27, 45, 65, 81
3960 Peachtree Road, N.E.
Atlanta, GA 30319
Clyde H. Gordon, Sr. Consultant
(404) 261-2050

Consultants, energy conservation and management; industrial operation and maintenance; evaluation and field testing of products, methods and equipment relating to institutional sanitation.

209. SGL INDUSTRIES, INC.
76 Euclid Avenue
Haddonfield, NJ 08033
Jonathan R. Lax, Vice President
(609) 429-7400

10, 44, 45, 76, 104

Manufacturers of electrical and electronic, metal and plastic products.
Providers of industrial services. Divisions include:

SGL Batteries Manufacturing
14650 Dequindre
Detroit, MI 48212
(313) 868-6410

Specializes in producing lead-acid batteries for "high-drain" applications such as in-plant equipment, electric-powered golf carts, electric automobiles, and trucks and buses—SGL Deep Cycle TM batteries.

SGL Auburn Spark Plug Co.
89 York Street
Auburn, NY 13021
(315) 252-9501

Manufactures Auburn TM line of engineered, specialty igniters, liquid level control electrodes, electric feed-throughs, motor terminals, and observation ports.

SGL WABER Electric
300 Harvard Avenue
Westville, NJ 08093
(609) 456-5400

Manufactures SGL Waber ^R electric power outlet boxes, SGL Power Master TM multiple outlet strips, and instrument transports.

SGL Electronics
300 Harvard Avenue
Westville, NJ 08093
(609) 456-7300

Manufactures high-performance magnetic components, magnetic laminations and cores.

SGL Printed Circuits
827 Black Oak Ridge Road
Wayne, NJ 07479
(201) 835-2765

Produces custom electronic circuitry.

SGL Abrasives
North Pitt Street Extended
Carlisle, PA 17013
(717) 243-3471

Manufactures grinding wheels and abrasive shapes, "super-speed" grinding wheels, and abrasive segments.

SGL Piping Systems
302 Falco Drive
Newport, DE 19804
(302) 995-6136

Manufactures Galaxie TM line of piping components (stub ends, coils and pipe elbows) used in petrochemical plants; integrated piping systems.

198. QUALIFY BAKERS OF AMERICA CORP. 54
 1515 Broadway
 New York, NY 10036
 Dr. Simon S. Jackel, Vice President
 (212) 790-9225
- Full service laboratory and consulting facilities for bakery foods and for application of ingredients, processes and products in the baking industry.
199. QUEST RESEARCH INTERNATIONAL, Inc. 9, 17, 19, 45, 48, 53, 55,
 (formerly Howe-Baker Engineers) 66, 92, 95, 99, 106, 110
 P. O. Box 478
 Tyler, TX 75710
 Tom H. Cheavens, Research Director
 (214) 597-4174
- Process research, refining and petrochemicals; combustion analytical services; industrial hygiene; waste water; petroleum products.
200. RAD SERVICES, INC. 26, 48, 66, 70, 95
 9381 "C" Davis Avenue
 Laurel, MD 20810
 Edward Wellner, Operational Manager
 (301) 953-9583
- Transportation, packaging, storage and disposal of radioactive and chemical waste. Maintenance, calibration, repair, leasing, purchasing and sales of radiation instrumentation. Radioactive laundry service and environmental monitoring services including consultation, instrumentation and TLD, film badge dosimetry.
201. RADIATION MANAGEMENT
 Science Center Building Two
 3508 Market Street—Suite 30
 Philadelphia, PA 19104
 Bernard T. Geehan
- (No expertise submitted at time of printing)
202. E. RAU ENTERPRISES 14, 15, 17, 18, 45, 61, 103
 40 Salisbury Avenue, Stewart Manor
 Garden City, NY 11530
 (Mailing address: P. O. Box 443
 Floral Park, NY 11001
 Dr. Emil D. Rau, President
 (201) 440-3277 or (516) 488-2796
- Saline chemicals. Fermentation. Wood chemistry. Coal chemistry. Agricultural systems. Solar energy.
203. REMTECH, INC. 2, 5, 6, 7, 27, 32, 40, 45,
 2603 Artie Street, Suite 21 47, 57, 63, 74, 80, 90, 93,
 Huntsville, AL 35805 95, 101, 103, 108, 114, 123
 Charles E. Fuller, VP (205) 536-8581
- Firm is qualified to conduct programs in Energy Transfer, Fluid Mechanics, Environmental Control, and System Analysis. Experience includes Combustion, Gaseous Radiation, and Aerodynamic Heating Analyses; Laser Doppler Velocimetry, Ground Test Support and Instrumentation Design; Building Noise Surveys conducted for the government, universities and industry. The company has amplified its technical capabilities for Solar Energy System Design, Building Heat Load Analysis, and Energy Resource/Conservation Studies.

analysis, fatigue and failure analysis. High pressure and high temperature component analysis and criteria development.

184. OPTELECOM, INC. 20, 25, 45, 74, 86, 90, 93,
15940 Shady Grove Road 103, 105, 106, 121
Gaithersburg, MD 20760
William H. Culver, Pres. (301) 948-4232

Manufactures and designs modulators, semiconductor lasers, laser arrays, high brightness illuminators, optical fibers, fiber optic cables, solar concentrators, and communications systems.

185. OTISCA INDUSTRIES, LTD. 45
P. O. Box 186
LaFayette, NY 13084
Clay D. Smith, Pres. (315) 475-5543

Fossil fuel mining, extraction, and upgrading research and development and process construction.

186. PACIFIC SIERRA RESEARCH CORP.
1456 Cloverfield Blvd.
Santa Monica, CA 90404
Richard J. Boberg (213) 828-7461

(No expertise submitted at time of printing)

187. PANDALAI COATINGS CO. 17
618 Dahlia Drive
Monroeville, PA 15146
Krish Pandalai (412) 373-7493

Research, development and manufacture of organic coatings for the coil coating, transportation and maintenance industries.

188. PAYNE, INC. 5, 6, 7, 24, 27, 34, 45, 46,
1933 Lincoln Drive 47, 51, 57, 63, 77, 87, 103,
Annapolis, MD 21401 114, 119, 123
Peter R. Payne, Chmn. (301) 268-6150

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190. PENETRADAR CORP. 6, 40, 42, 44, 70, 80, 86,
6865 Walmore Road 100, 101
Niagara Falls, NY 14304
Anthony V. Alongi, Pres. (716) 731-5937

Ground-Penetrating-Radar Technology. High-Resolution Radar. Radar Propagation and Scattering. Target Identification. Radar Systems Analysis and Design. Electronic Warfare Analysis.

191. PENN STATE ENGINEERING 47
P.O. Box 177
State College, PA 16801
Norman A. Katz, Pres. (814) 238-5013

Civil engineering.

172. METAL BELLOWS CORP. 6, 12, 28, 49, 70, 88, 108, 116
 1075 Providence Highway
 Sharon, MA 02067
 Elton M. Tucker, Assistant Division Mgr.
 (617) 668-3050, Ext. 118

Design, development and production of metal bellows components and systems for sealing, pumping, sensing and controlling in nuclear, medical, aerospace and industrial process applications. Application of advanced technology to precision forming, brazing and welding of foil thickness metals.

173. METEX CORPORATION 124
 970 New Durham Road
 Edison, NJ 08817
 Bertram R. Rashkow (201) 287-0800

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174. MILMARK RESEARCH, INC. 9, 13, 17, 35, 66
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 Dr. Sheldon L. Clark (215) 488-6002

Industrial hygiene (laboratory services), toxicology, including drug screening and quantitation. Biological and biochemical research, including enzymes, lipids, steroids, proteins, immuno-chemical analysis, tissue cultures. Product formulation, testing and manufacturing for private labels.

175. MOLECULON RESEARCH CORP. 3, 9, 17, 23, 24, 35, 41, 47, 50, 51, 63, 65, 73, 74, 79, 93, 94, 99, 103, 105, 106, 109, 110, 113, 124
 139 Main Street
 Cambridge, MA 02142
 Arthur S. Obermayer, President
 (617) 547-2353

Specializes in research, development and consulting in chemistry polymers and allied fields. These services, performed for private industrial clients and for government agencies, range from feasibility studies and product development, to problem solving, chemical engineering investigations, and process development. Facilities include well-equipped laboratories for conducting chemical and physical experiments as well as facilities for pilot scale unit operations including film casting, fabric coating, extraction processes, emulsification, spray drying, mixing, filtration, sifting, extrusion, purification, grinding, etc. Manufactures POROPLASTIC[®] film and SUSTRELLE[™] powder. These polymeric materials are best described as a solid composed mostly of liquid or alternatively, as a molecular sponge. Amounts ranging from 70% to 98% of almost any liquid can be held within the cellulose triacetate matrix of which Poroplastic or Sustrelle is composed. A variety of procedures can be used to control the rate of mechanism by which a liquid or precipitated solid can be released from this polymeric matrix. Product applications are in a variety of consumer, industrial and technical product applications such as controlled release of fragrances, flavors, medicinals and pesticides; and the separation of biological fluids and industrial liquids.

176. MONA INDUSTRIES, INC. 9, 17, 18, 29, 51, 55, 66, 67, 68, 70, 75, 79, 91, 94, 95, 96, 99, 106, 110, 116
 65 E. 23rd Street
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 Dr. Karl Heyman, VP/R&D
 (201) 274-8221, Ext. 12

Manufacture of organic synthetic chemical specialties.

including development of performance-oriented training objectives and course curricula, training aids, content and design of presentation methodology; investigations of work capabilities of divers at various depths, performing various tasks; requirements and layout analysis of displays and controls of man-operated systems; analysis of environmental hazards and their effects.

161. MAN-SYSTEMS, INC. 12, 23, 61, 64, 91, 102
 3107 McDow Avenue
 Huntsville, AL 35805
 Edward L. Saenger, Pres. (205) 536-3983

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162. MAROTTA SCIENTIFIC CONTROLS, Inc. 28, 47, 77, 78, 88, 108,
 112A, 113A
 Boonton Avenue
 Boonton, NJ 07005
 William T. Browne, Jr. (201) 334-7800, Ext. 275
 Director of Sales & Marketing

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163. MARTIS ASSOCIATES 2, 3, 5, 6, 7, 9, 14, 20, 21,
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164. MASON RESEARCH INSTITUTE 12, 13, 17, 21, 30, 32, 81,
 84, 110
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 Dr. John C. Landon, Pres. (617) 791-0931

Biomedical Research, Toxicology, Pathology, Reproductive Physiology, Drug and Chemical Safety and Efficacy Testing, Biomedical Data Processing.

electrolysis), removal of oxidizable contaminants, nitrogen generation, humidity control; Water and Waste Treatment Systems including water disinfection and sterilization, ultrafiltration, reverse osmosis, ozonation, ion exchange and hypochlorination; Computer-oriented instrumentation including control, monitor, data acquisition and sensors; Electrochemical applications to processes and sensors (total organic carbon, chemical oxygen demand, biocides, gas contaminants).

149. LINK ENTERPRISES, INC. 4, 20, 38, 39, 50, 72, 85,
P. O. Box 11073 103
Montgomery, AL 36111
Katherine S. Link, President
(205) 288-2906, 288-7002 or 281-7267
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150. LINKABIT CORPORATION 20, 21, 86, 93
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San Diego, CA 92121
Dr. I. M. Jacobs, Pres. (714) 453-7007

Systems studies; software and hardware manufacturing; digital communications with emphasis on satellite communications; error-correcting coders and decoders; modulation-demodulation techniques; television and voice data compression; applications of microprocessors to communication; optical fiber communication.

151. LITRON LABORATORIES, LTD. 9, 12, 13, 17, 21, 32, 35,
1351 Mt. Hope Avenue 45, 72, 81, 84, 110
Rochester, NY 14620
Dr. Andrew M. Tometsko, Pres.
(716) 275-4008

Research and development capabilities in chemical, biological and computer sciences. Biomedical interests involve drug design, structure-function relationships in biological systems and applied enzymology. Evaluations of toxicity, mutagenicity, and carcinogenicity of chemicals are carried out routinely.

152. LITTLETON RESEARCH & ENGINEERING 2, 26, 30, 32, 47, 63, 70,
95 Russell Street 77, 87, 89, 107, 112, 115
P. O. Box 128
Littleton, MA 01460
F. Everett Reed, Pres. (617) 486-3526 or 3039

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153. LOMBARD SYSTEMS, INC. 2, 20, 21, 22, 28, 32, 86,
1196 Andre Avenue 100, 101, 108
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R. G. Baron, Pres. (415) 965-3682

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136. JACOBS-WINSTON LABORATORIES, Inc. 9, 27, 40, 55, 65, 84, 99,
25 Mt. Vernon Street 115
Ridgefield Park, NJ 07660
Marvin E. Winston, V.P. (212) 962-6536

Food chemistry, including microbiology and pesticide residue tests using gas chromatography; specializing in macaroni, noodles, fish, egg, meat products; also sanitation.

137. JENIKE & JOHANSON, INC. 9, 19, 23, 45, 47, 49, 52,
2 Executive Park Drive 54, 88, 110, 112
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Consulting engineers specializing in the storage and controlled flow of bulk granular solids, with applications in problems involving bin flow, feeders, plant design, stand pipes, compaction, chute design, moving bed reactors, and loads on bin walls. Also perform contract research in the above fields and sell a line of test equipment used to measure solids flow properties.

138. JOHNSON ENGINEERING CO. 15, 24, 27, 30, 45, 56, 77,
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139. THEODORE JONAS/ASSOCIATES LTD. 10, 12, 19, 24, 27, 34, 45,
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James T. Ferguson, Associate
(703) 527-8555

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140. JONES ASSOCIATES 23, 36, 38, 47, 48, 60, 61,
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Offers innovative professional engineering analysis, planning and design services to industry and government in ecology, civil engineering, environmental engineering, technology transfer, regulatory analysis, and technology management. Current assignments for clients in the public and private sectors include comprehensive technical and program analyses of environmental regulations promulgated pursuant to the Water Pollution Control Act, the Safe Drinking Water Act, and the Toxic Substances Control Act.

141. KAR LABORATORY 9, 12, 15, 18, 81, 99, 119
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John Karnemaat, Director (616) 381-9666

Product Development. Waste Utilization. Environmental Monitoring.

142. ALAN B. KAMMERMAN 93
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(215) OR 7-3955

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127. INNOVATIVE SYSTEMS RESEARCH, Inc. 2, 6, 9, 12, 13, 14, 20, 21, 25, 27, 31, 32, 37, 38, 39, 40, 74, 75, 78, 81, 102, 103, 109
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 Pennsauken, NJ 08109
 Alan A. Paris, Pres. (609) 665-9250
 and
 1312 Vermont Avenue, N.W.
 Washington, DC 20005
 (202) 332-2185
- Advanced Technology Research. Decision Sciences. Experimental Social Sciences Research. Educational Planning. Information Sciences.
128. INPUT OUTPUT COMPUTER SCIENCES 21, 25, 28, 32, 68, 108
 689 Concord Avenue
 Cambridge, MA 02138
 Thomas A. Farrington, Pres.
 (617) 661-8700
- Computer Software & Systems Engineering Services; Division in Aerospace, Transportation and Resident Services.
129. INTERNATIONAL VENTURE RESEARCH 9, 21, 37, 78, 84, 99
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 Chaska, MN 55318
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- New product development; process engineering; home economics; market research; economic research; quality control. Equipped with microbiological laboratory, information library, computer terminal facilities, pilot plants, prototype evaluations.

110. GLEN A. GILBERT & ASSOCIATES 5, 25, 26, 99, 108
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 Washington, DC 20037
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 Studies, Analyses, Presentations on Air Traffic Control, all facets of Aviation Systems Engineering, Life Cycle Costing, Helicopter/VTOL all weather developments, RNAV.
111. R. J. GILLIS ASSOCIATES 78
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 Arlington, VA 22202
 Richard J. Gillis, Principal (703) 684-7677
 Government R&D. Marketing Consultants.
112. W. R. GRACE & CO. 3, 10, 12, 13, 16, 17, 18,
 Research Division 19, 29, 34, 41, 45, 48, 53,
 7379 Route 32 54, 61
 Columbia, MD 21044
 C. W. Orgell, Mgr/Commercial Planning
 (301) 531-5711, Ext. 258
 Research and development of specialty materials and chemicals for industry.
113. GUMBS ASSOCIATES, INC. 3, 17, 18, 24, 94, 103, 110,
 26 Avenue "B" 119
 Newark, NJ 07114
 Dr. Ronald W. Gumbs, Pres.
 (201) 824-5110
 Research and development in chemicals, polymers, adhesives and coatings.
114. J. CHARLES HALPINE 25, 26, 27, 28, 30, 45, 51,
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 Specialist on Fluid Measurement for 22 years. In the field of petroleum, chemicals, water, and now gas, company has five patents in these fields and eight new patents applied for. Manufactures measurement systems and components for same. Also leases packages for measurement and will maintain them if desired. Measurement consulting work on all kinds of fluids and gases.
115. FREDERIC R. HARRIS, INC. 25, 37, 47, 59, 63, 77, 87,
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 Washington, DC 20006
 Eugene H. Harlow, Exec. VP (202) 293-1335
 Consulting engineering primarily in waterfront and marine structures, ports, harbors, highways, bridges, transit & transportation facilities, ocean engineering.
116. ARTHUR L. HAWK 44, 45, 60, 103
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 Falls Church, VA 22046
 (703) 534-5143
 Navy procurement procedures and documentation. Microprocessor programming (INTEL products). Solar engineering. Naval SONAR and communications systems.

96. ENERGY TECHNOLOGY, INC. 7, 27, 45, 46, 47, 103,
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97. ENVIRONMENTAL & REGIONAL RESEARCH ASSOCIATES, INC. (ERRA) 39, 48, 101
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- (No expertise submitted at time of printing)
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- (No expertise submitted at time of printing)
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82. DUFRESNE-HENRY ENGINEERING Corp. 8, 9, 14, 25, 27, 34, 36,
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- (No expertise submitted at time of printing)
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85. EBON RESEARCH SYSTEMS 17, 21, 32, 35, 36, 47, 68,
1542 - 9th Street 81, 102, 103, 119
Washington, DC 20001
Dr. Florence J. Hicks, Executive Director
(202) 483-3306
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86. ECOMETRICS, INC. 12, 13, 21, 32, 36, 81, 84
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Ms. Helen E. Keller, Pres. (304) 292-4554
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87. EDUCATIONAL ASSESSMENT SERVICE 39
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(414) 261-1118
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88. ELECTRIDES CORPORATION 44, 45
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69. CRESHEIM CO., INC. 14, 25, 68, 78, 108, 109
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 Jonathan Yerow
 (No expertise submitted at time of printing)
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58. CHI ASSOCIATES, INC. 2, 25, 47, 63, 80, 84, 87,
1011 Arlington Blvd. — Suite 316 89, 103, 107
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Civil and Mechanical Engineering; Statistical analysis; Cost-effectiveness analysis; Ship performance; Life Science and Microbiology.

59. CLAREMONT POLYCHEMICAL CORP. 3, 14, 15, 16, 17, 18, 19,
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Hal C. Felsher, Vice President 61, 64, 65, 70, 73, 78, 79,
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95, 98, 99, 103, 105, 106,
109, 110, 113, 116, 117,
119, 123

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Norman C. Witbeck, President 63, 64, 71, 77, 79, 87, 89,
(703) 379-7757 91, 92, 93, 94, 95, 99, 103,
108, 109, 112, 114, 119,
123, 124

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 Lexington, MA 02173
 (617) 861-6240
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48. DAYTON T. BROWN, INC.
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 Bohemia, NY 11716
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 (No expertise submitted at time of printing)
49. BUSINESS PSYCHOLOGY INTERNATIONAL 6, 20, 23, 24, 25, 26, 27, 69, 117
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10. ANALYDATA 14, 25, 37
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120. Wave Track Theory
121. Weaponry 16, 19, 23, 34, 56, 100, 155, 163, 178, 184, 194, 197, 211, 246
122. Weight Power Electricity Generation 23, 210, 255
123. Wind Energy 3, 8, 56, 59, 60, 61, 78, 82, 84, 93, 135, 139, 165, 178, 188, 196, 203, 208, 210, 213, 240, 243, 259, 262, 268, 269
124. Wire Products 19, 61, 173, 175

91. Personnel Safety & Evaluation 17, 19, 21, 61, 67, 144, 147, 160, 161, 176, 264
92. Petrochemicals Engineers 8, 14, 27, 42, 56, 59, 61, 121, 139, 143, 199, 219, 256, 261
93. Physics 2, 12, 15, 46, 51, 55, 56, 59, 61, 65, 66, 75, 108, 142, 150, 163, 175, 183, 184, 194, 203, 204, 210, 211, 218, 220, 228, 230, 248, 249, 257
94. Plastics 6, 50, 51, 59, 61, 113, 138, 175, 176, 178, 193, 220, 231, 236, 239, 248, 249, 254, 256, 259, 263, 269
95. Pollution Controls 1, 9, 14, 19, 30, 40, 41, 52, 56, 59, 60, 61, 76, 80, 82, 109, 118, 131, 135, 139, 140, 147, 148, 163, 176, 199, 200, 203, 210, 214, 219, 222, 226, 239, 257, 261, 264
96. Product Liability 17, 45, 51, 104, 105, 160, 176, 182, 183, 234, 236, 239
97. Publishers 5, 14, 44, 76, 105, 166, 170, 231, 250
98. Pyrotechnics 19, 59, 239
99. Quality Control 9, 19, 30, 35, 40, 51, 59, 61, 93, 110, 129, 136, 141, 147, 163, 175, 176, 182, 194, 197, 199, 226, 229, 232, 246, 248, 249, 253
100. Radar Technology 4, 16, 19, 32, 100, 153, 163, 190, 211, 228, 246, 248, 249
101. Remote Sensing 16, 19, 31, 32, 84, 93, 97, 104, 153, 163, 190, 203, 208, 217, 228, 230, 246, 269
102. Social Sciences 14, 17, 63, 76, 78, 85, 120, 127, 160, 161, 205, 216A, 228
103. Solar Energy 2, 3, 8, 9, 14, 15, 19, 37, 46, 50, 52, 54, 55, 56, 58, 59, 60, 61, 68, 76, 77, 85, 89, 90, 93, 94, 96, 104, 107, 113, 116, 121, 122, 127, 131, 135, 138, 139, 149, 155, 163, 165, 166, 175, 183, 184, 188, 194, 196, 197, 202, 203, 208, 210, 225, 226, 227, 231, 239, 243, 259, 260, 261, 264, 268, 269, 272
104. Spark Plugs 19, 138, 209
105. Spectroradiometry 19, 31, 59, 175, 184, 230

58.	General Systems Science	19, 61, 63, 66, 108, 114, 163, 194, 210, 239, 246, 261
59.	Geology	4, 32, 51, 59, 60, 109, 115, 226, 246, 257
60.	Government	8, 63, 116, 139, 140, 156, 163, 165, 223, 246, 256, 267, 271
60A.	Grain Processing	235
61.	Graphic Arts	17, 59, 61, 73, 112, 126, 140, 161, 166, 202, 211, 239, 246
62.	Health Education	17, 120
63.	Hydrodynamics	19, 20, 52, 56, 58, 61, 108, 115, 152, 163, 175, 183, 188, 207, 210, 214, 227, 264
64.	Human Factors Engineering	17, 59, 61, 73, 120, 144, 160, 161, 194, 239, 241, 243, 246, 256
65.	Industrial Engineers	14, 56, 59, 118, 136, 140, 175, 177, 194, 215, 234, 239, 246
66.	Industrial Safety	14, 19, 40, 105, 147, 160, 174, 176, 199, 200, 222, 234, 239, 257
67.	Industrial Security	103, 163, 176
68.	Information Systems	25, 28, 29, 52, 63, 66, 69, 73, 85, 103, 120, 126, 128, 163, 176, 194, 210, 211, 217, 228, 239, 244, 246
69.	Innovator's Representatives	49, 53, 143, 195, 205, 217, 267, 269
70.	Instrumentation	2, 4, 19, 23, 27, 29, 30, 31, 32, 35, 41, 59, 65, 75, 79, 84, 93, 104, 114, 123, 133, 135, 144, 145, 148, 152, 160, 163, 172, 176, 190, 200, 210, 216, 222, 227, 228, 229, 239, 257, 261, 262
71.	Integrated Logistics	17, 61, 144, 194, 211, 241
72.	Interdisciplinary Bridges	19, 63, 108, 149, 151, 160, 205
72A.	Inventors	42, 105, 114, 178, 255, 268
73.	Isotopes	15, 39, 51, 59, 175, 245
74.	Laser Technology	56, 65, 102, 124, 127, 163, 168, 175, 178, 184, 197, 207, 210, 211, 238, 246, 257

29.	Corrosion Prevention	6, 19, 51, 59, 90, 112, 163, 176, 242, 269
30.	Cryogenics	19, 27, 38, 75, 102, 114, 138, 152, 163, 164, 257, 269
31.	Cybernetics	63, 108, 127, 163
32.	Data Processing	3, 4, 11, 12, 28, 52, 61, 63, 66, 73, 84, 85, 86, 126, 127, 128, 151, 152, 153, 163, 164, 194, 203, 211, 217, 227, 228, 239, 246, 259
33.	Dental Research	193, 236, 263
34.	Desalination of Water	19, 56, 82, 90, 104, 112, 132, 139, 163, 188, 210, 231, 243, 261
35.	Drugs	39, 85, 147, 151, 174, 175, 195, 231
36.	Ecology	1, 14, 40, 54, 59, 61, 72, 76, 82, 85, 86, 108, 140, 231, 257, 259
37.	Economics	8, 10, 28, 63, 66, 78, 81, 108, 115, 127, 129, 163, 168, 192, 205, 216A, 256, 257
38.	Editing	61, 76, 124, 127, 140, 149, 160, 241
39.	Educational Evaluation	17, 76, 87, 97, 127, 149, 160, 216A, 267
40.	Electrical Engineering	12, 14, 19, 46, 63, 81, 82, 124, 127, 136, 148, 159, 163, 169, 171, 177, 190, 194, 203, 208, 210, 211, 216, 217, 221, 222, 239, 246, 247, 248, 249, 261
41.	Electrochemistry	14, 19, 41, 50, 59, 90, 93, 112, 132, 148, 175, 204, 230, 245, 251, 252
42.	Electromagnetic Analysis	16, 19, 190, 210, 211, 228, 248, 249, 257, 269
43.	Electron Microscopy	14, 51, 193, 226, 236, 248, 249
44.	Electronics	11, 16, 19, 32, 81, 88, 89, 93, 116, 121, 123, 124, 135, 145, 148, 163, 190, 204, 209, 210, 211, 216, 217, 220, 227, 228, 238, 246, 248, 249, 258, 268, 269

SECTION II - TECHNICAL FIELDS & MEMBER IDENTIFICATION NUMBERS

<u>Technical Field</u>	<u>Member Identification Number</u>
1. Accident Investigation	19, 51, 52, 105, 160, 183, 239
2. Acoustics	19, 42, 58, 61, 80, 81, 127, 152, 153, 155, 163, 183, 194, 203, 216, 222, 246, 264
3. Adhesives	6, 15, 19, 50, 59, 89, 112, 113, 163, 175, 182, 195, 197, 231, 236, 254
4. Advertising	19, 72, 149, 236, 246, 269
5. Aerodynamics	23, 29, 56, 61, 110, 135, 145, 155, 163, 169, 188, 203, 210, 220, 227, 240, 265, 269
6. Aerospace Science & Techniques	19, 23, 31, 40, 49, 56, 61, 63, 65, 84, 91, 102, 104, 127, 144, 145, 155, 163, 172, 188, 190, 197, 203, 210, 216, 227, 228, 230, 239, 240, 246, 265
7. Airbreathing Propulsion Systems	61, 96, 122, 144, 155, 163, 188, 197, 203, 210, 240
8. Airconditioning	76, 82, 122, 131, 135, 259
9. Analytical Laboratory	9, 14, 19, 40, 50, 51, 60, 82, 109, 127, 129, 136, 137, 141, 146, 147, 151, 163, 174, 175, 176, 197, 199, 206, 219, 226, 229, 231, 232, 236, 239, 248, 249, 257, 263
10. Batteries	19, 23, 41, 50, 90, 112, 139, 144, 195, 209, 248, 249
11. Bicycles	37
12. Biomedical Sciences	14, 40, 41, 61, 86, 91, 108, 112, 127, 133, 139, 141, 151, 161, 164, 165, 171, 172, 193, 204, 206, 218, 229, 231, 234, 236, 239, 259, 263, 264
13. Biology	14, 15, 40, 86, 112, 127, 147, 151, 164, 174, 193, 231, 257, 259, 264
14. Business Administration	10, 21, 45, 59, 63, 69, 72, 78, 82, 104, 127, 130, 143, 163, 165, 192, 202, 205, 216A, 231, 247, 256, 267
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The AMERICAN ASSOCIATION OF SMALL RESEARCH COMPANIES was organized in 1972 to obtain a more equitable share of R&D funding for small R&D and high technology companies. It has grown from 28 members to 300 and has been successful in its efforts to bring to the attention of government and private industry the many problems facing small R&D companies and simultaneously establishing the vital necessity of maintaining this group as a viable entity. Their talents are well described by the following page from the AASRC brochure.

IMPORTANCE OF SMALL R&D COMPANIES IN OUR SOCIETY

"From a number of different points of view we are convinced that a unique cost-benefit opportunity exists in the provision of incentives aimed at encouraging independent inventors, inventor-entrepreneurs and small technologically based businesses. The cost of special incentives to them is likely to be low. The benefits are likely to be high." (Taken from a Department of Commerce report called "Technological Innovation: Its Environment and Management", 1967.)

The report makes special note of the fact that some very important innovative contributions have been made by independent innovators and small companies. The range and diversity of these individuals are very impressive. The following is a partial list since 1900:

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DDT	J. R. Geigy & Co.	FREQUENCY MODULATION RADIO	Edwin Armstrong
INSULIN	Frederick Banting	SELF-WINDING WRISTWATCH	John Harwood
VACUUM TUBE	Lee de Forest	CONTINUOUS HOT-STRIP ROLLING OF STEEL	John B. Tytus
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