EUROPEAN MICROSYSTEM & MICRO-NANOTECHNOLOGY NETWORK

ΣMINENT

EUROPEAN B2B ACCELERATOR FOR M@NT SMES
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Identification of relevant M@NT regions and Inventarisation of existing entities

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1 Introduction

Research on existing M@NT regions and entities brings up first findings when work (mainly with own knowledge pieces and additional search in the internet) just started: The landscape appears as very “organic” and multi structural. Sometimes redundancies occur, which make obvious the potential of deeper collaboration (e.g. in Germany exist extensive lists of M@NT companies in different sites, which are on the other hand not found in other countries at all). The slow level of integration begins with spelling of the essentials (nano technology vs. nanotechnology or MST-Microsystemstechnology vs. MEMS vs. Micromachines) – from web site naming up to the names of whole institutions. A further handicap within not specialized sites is the fact, that micro- and nanotechnology most often are not ordered to an explicit industry. They appear more in the functional line (surfaces) or as sub (hidden) elements of much bigger areas (e.g. medtech, biotech and so on).

Nevertheless, findings are interesting with respect to national and international exchange of knowledge, technology, resources and last but not least – investment: What appears difficult to skilled researchers will certainly not encourage freshly interested readers to go on.

To take the result to the beginning: There is lots of potential to exploit in order to create a transparent community and to prevent from the genesis of national or even local “closed boxes”.

2 Existing regions and entities

2.1 Technoparks and Business Angel Networks

Technoparks are often “multi sponsored” industrial sites, providing office space as well as networking and production support. In European countries latest research exhibits a number of 30 Technoparks, covering Germany, Austria, Switzerland, The Netherlands, Sweden, Norway and Finland. A clear focus of initiatives dealing with M@NT companies or related industries lays on Germany (7 entities), the Netherlands (2 entities) and another each one in Sweden and Finland. It is no guaranteed that there do no more initiatives focus on that theme but at least they are not listed in frequented internet sites - a fact that will be a serious barrier of contact to relevant entrepreneurs.

Institution	Website	Country	Activities
TIP Technik- und Innovationspark Munich	www.tip-muc.de	Germany	telecommunications, satellite, aerospace industry
Media Works Munich	www.media-works-munich-com	Germany	microelectronics, consultants, media
MicroPolis Dresden	www.micropolis.de	Germany	microelectronics, information and communications technology
Technologie Park Hamburg Nord	www.it-parcs.com	Germany	biotechnology, computer systems
Technologiepark Heidelberg	www.heidelberg.de/Technologiepark	Germany	micro-electronics
Kuopio Science Park	www.finhost.fi/teknia/teknian.html	Finland	information technology, medical technology
Start Point Munich	www.startpoint.com	Germany	aerospace industry, communications networks, energy technology
TechnologiePark Dortmund	www.technologiepark.de	Germany	ICT, software, microelectronics
Kista Science Park	www.kistasciencepark.org	Sweden	telecommunications, data communication, microelectronics.
Geomatica Business Park	www.geomaticapark.nl	Netherlands	remote sensing, IT
Amsterdam Science Park	www.asp.nl	Netherlands	biotech, technology

A clear trend towards DACH turns out – what does not have to be conditioned by more activity, but perhaps by more actively communicated activities.

Business Angels Networks are organisations set up in order to provide a means of introduction between small and medium sized enterprises and investors. The matching operates in different ways: computer matching, investment newsletters/magazines, investor forum and fairs. There are Networks of Business Angels in several European countries, having their common portal in the website of the European Business angel Network (www.eban.org). The networks are most often non-profit organisation sponsored by different state, industrial or educational institutions. Members of EBAN are of Austria (www.innovation.co.at), Belgium (Vlerick Business Angels Netwerk), Finland (www.sistra.fi), France (www.business-angels.com), Germany (www.business-angels.de), Italy (www.iban.it), Monaco (Pastor Center), The Netherlands (www.nebib.nl) and the United Kingdom (www.equitylink.co.uk). Regardless the investments that are eventually channelled over these networks they give most often a very good entry in national innovation institutions.

2.1.1 Austria

The Innovationsagentur (www.innovation.co.at) is an association of the ministry for labour and economics, the Austrian chamber of commerce and other parties. Offered Services are Business Angel Contacts, Seed Finance Provisioning, Commercialisation of patents esp. in biotechnology. Selected entities are listed in the table below.

Institution	Website / Contact	Activities
Eigenkapitalservice Salzburg	Mag. Reinhard Scharfetter info@eigenkapitalservice-sbg.at	Provisioning of equity and venture capital instruments to SMEs in Salzburg
RIZ	Dr. Helmut Hanzl hanzl@riz.co.at	Innovation multiplier of the country Niederösterreich in order to channel innovative developments
CATT	Dipl.-Ing. Gilbert Schreiber schreiber@catt.at	Technology center of Oberösterreich for the support of high tech developments
Wirtschaftsstandort Vorarlberg GmbH	Dr. Christian Märk cm@wisto.at	Network partner for technology entrepreneurs with strong focus on funding
Silicon Alps – Kärnten Techologie GmbH	Dr. Christian Märk cm@wisto.at	Agency for allocation and infrastructure in the area of high tech innovations
Tech Tirol GmbH	Mag. Armin Partl a.partl@tech-tirol.at	Founders' support, infrastructure and capital access for early stage technology companies
Tech Net Eisenstadt GmbH	Dipl.-Ing. Wolfgang Rupp wofgang.rupp@tze.at	Incubator with focus on high tech innovations

The environment is characterized by numerous additional entities – all of them providing further links and hints. Important official addresses are certainly the Wirtschaftskammer (www.portal.wko.at) and the Bundesministerium für Wirtschaft und Arbeit (www.bmwa.gv.at).

OGMS (www.ogms.at) is an industry oriented initiative aiming at comprehensive support to the area of micro systems technologies.
It focuses on national technology and knowledge transfer as well as the enhancement of exchange with relevant networks and partners within the EC and beyond.

2.1.2 Finland

An important organization ist the FISPA (Finish Science Park Association). The FISPA centres are all located in cities known as Finnish centres of expertise, which are tools for developing regional technology and industry. The Science Parks, together with the local universities, are a focal point in the structure of these centres of expertise. All the centres specialize in the same sectors as the local technology centres. Although, a very focus on M@NT ist not visible. The centres are listed under (www.finhost.fi/teknia/teknianalku2.html). This network is boosted by intensive industrial participation what leads to outstanding progresses in time and

commercialisation means (e.g. installation of whole mobile phone fabrication of Ericsson in one of the sites brings huge potential for the vicinity of entrepreneurial entities).

Another organisation is the SITRA (www.sitra.fi). This association focuses on innovative operations to create new cooperative networks and models, corporate funding for technology companies in the their early stages of existence, regional enterprises with promising future and commercialising innovations as well as investments in international venture-capital funds concentrating on the high-tech field. The company holds beyond 50 portfolio companies in the area of med- and high-tech. Sitra cooperates with public-sector bodies such as the Finnish National Technology Agency (Tekes), the Finnish Industry Investment Ltd., Finnvera, the Academy of Finland, and Employment and Economic Development Centres (TE-centres). In addition, Sitra tries to coordinate its funding with that of other providers of capital.

2.1.3 France

France offer academic support in Nanoworld (www.nano-tek.org). This non-profit portal gives access to literature and even CVs of people working in the nanotechnology.

Beyond that there is the French Research Network of Micro- and Nano Technologies (www.rmnt.org/EN/index.html). The Network was created by the French Prime Minister during the Innovation Meetings in 1998. It represents a new type of innovation funding set by the French Ministry or Research (Technology Direction) www.technologie.gouv.fr. The aim of these networks is to promote technological transfers between public basic research and industry in government marked priority fields. RMNT is thus opened to all laboratories and companies working in these areas.

Projects are submitted on a current stream basis. After expertise, they are examined at fixed dates during labelling commissions three times a year (March, June and October). The presence of at least one company and one public laboratory in the consortium is mandatory. The projects are labelled and followed by the Network Orientation Board. The "Secrétariat d'Etat chargé de l'Economie, des Finances et de l'Industrie" (www.industrie.gouv.fr), the "Ministère de la Recherche". (www.technologie.gouv.fr) and the "ANVAR" (www.anvar.fr) are associated to fund this network.
The consortium may include a foreign partner under specifics conditions.

Minatec, Centre for Innovation in micro & nanotechnology (www.minatec.com) aims at professional support to upcoming companies in this sector. It offers Micro and Nanotechnology information and intelligence; French and European applied research networks: Eurimus, Nexus, RMNT, CNRT, Ademis; Support for industrial location:

one-stop incorporation center, relocation, development; Offices of venture capital firms and seed funds and Office space, meeting rooms and an auditorium.

2.1.4 Germany

There are several institutions sponsoring business angel networks as well as investing in innovative technology enterprises.

Institution	Website / Contact	Activities
ADT Arbeitsgemeinschaft Deutscher Technologie- und Gründerzentren	Uwe Heukeroth Telefon:(030) 63 92-62 21 www.adt-online.de	Roof association of German technology and founders' centres. A list of all available technology centres in Germany is provided at www.adt-online.de/zentren/standorte.htm
Bundesministerium für Wirtschaft und Technologie	Udo Neuhäußer Telefon: (0228) 6 15-28 83 www.bmwi.de	State ministry of research and technology
BVK Bundesverband Deutscher Kapitalbeteiligungs-gesellschaften e. V.	Dr. Holger Frommann Telefon: (030) 30 69 82-0 www.bvk-ev.de	Private equity related industry intelligence and market data
Investitionsbank Berlin	Dr. Ulrich Peter Telefon: (030) 21 25-33 01 www.investitionsbank.de	Start-up and Development Capital in German Eastern countries
Kreditanstalt für Wiederaufbau	Dr. Burkhard Touché Telefon: (0 30) 2 02 64-0 www.kfw.de	German bank for reconstruction and development. Offering founder's support in financial means
Technologie-Beteiligungs-Gesellschaft mbH der Deutschen Ausgleichsbank	Dr. Michael Brandkamp (030) 8 50 85-0 www.tbgbonn.de	Specialised technology development bank subsidiary of the German state. Offering fellow investments and guarantied loans within joint ventures.

The most powerful podium of nanotechnology in Germany appears to be the nanotechnology center of excellence (www.nanotechnology.de). The Center of Excellence "Ultrathin Functional Films", distinguished by the Federal Ministry of Research (BMBF) as a nation-wide such, is coordinated by Fraunhofer-IWS Dresden. It joins 38 enterprises, 14 university institutes, 19 research institutes, and 6 corporations into a common network.
It provisions a comprehensive list of German nano and micro technology players and sponsors:

AMTEC GmbH Anwendungszentrum für Mikrotechnologien Chemnitz	Technische Universität Dresden (TUD) Institut für Angewandte Photophysik (IAPP) http://www.iapp.de/
Applied Materials Europe GmbH http://www.appliedmaterials.com	Technische Universität Dresden (TUD) Institut für Physikalische Chemie und Elektrochemie (IPEC) http://www.chm.tu-dresden.de/pc

Bundesanstalt für Materialforschung und -prüfung http://www.bam.de/a_viii/g3viii20.html	Technische Universität Dresden (TUD) Institut für Makromolekulare Chemie und Textilchemie http://www.tu-dresden.de
Forschungs- und Entwicklungsgesellschaft Lacke und Farben mbH http://www.lackinstitut-magdeburg.de	Universität Hannover Institut für Halbleiterbauelemente und Werkstoffe (IHW) http://www.ihw.uni-hannover.de
Forschungszentrum Rossendorf e.V. (FZR) http://www.fz-rossendorf.de	Universität Hannover Institut für Festkörperphysik (FKP) http://www.uni-hannover.de
Europäische Forschungsgesellschaft "Dünne Schichten" e.V. (EFDS) http://www.efds.org	Verband Deutscher Maschinen- und Anlagenbau e.V. (VDMA) http://www2.vdma.de
Fraunhofer-Institut für Fertigungstechnik und Angewandte Materialforschung (IFAM) http://www.ifam.fhg.de	Zentrum Mikroelekronik Dresden AG http://www.zmd.de
Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM) Institutsteil München http://www.izm-m.fhg.de	Naturwissenschaftliches und Medizinisches Institut (NMI) an der Universität Tübingen http://www.nmi.de
Fraunhofer-Institut für Keramische Technologien und Sinterwerkstoffe (IKTS) http://www.ikts.fhg.de	Physikalisch-Technische Bundesanstalt Braunschweig PTB http://www.ptb.de
Fraunhofer-Institut für Mikroelektronische Schaltungen und Systeme (IMS) http://www.imsdd.fhg.de	Sachsen LB - Corporate Finance Holding GmbH Leipzig http://www.cfh.de
Fraunhofer-Institut für Schicht- und Oberflächentechnik (IST) http://www.ist.fhg.de	Carbo Tec - Gesellschaft für nano- und biotechnische Produkte mbH http://www.carbo-tec.de
Fraunhofer-Institut für Werkstoff- und Strahltechnik (IWS) http://www.iws.fhg.de	Capital Stage Nanotech GmbH http://www.capitalstagenano.com
Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM) Micro Materials Center Chemnitz http://www.izm.fhg.de	Fidura Capital Consult GmbH http://www.fidura.de

Gesellschaft für Wissens- und Technologietransfer mbH (GWT) http://www.gwt-tud.de	AXO Dresden GmbH http://www.axo-dresden.de
Hochschule für Technik und Wirtschaft Mittweida http://www.hv.htw-mittweida.de/	Nanotechnologie-Förderung des BMBF und des VDI http://www.nanonet.de
Institut für Festkörper- und Werkstofforschung e.V. (IFW) Institut für Festkörperforschung (IFF) http://www.ifw-dresden.de	Bundesministerium für Bildung und Forschung http://www.bmbf.de VDI - Technologiezentrum Physikalische Technologien http://www.vdi.de/tz-pt/phystech/tzpt.htm
Institut für Festkörper- und Werkstofforschung e.V. (IFW) Institut für metallische Werkstoffe (IFM) http://www.ifw-dresden.de	Kompetenzzentren Nanotechnologie http://www.nanotechnology.de/ger/s10.html
GFE - Gesellschaft für Fertigungstechnik und Entwicklung e.V. Schmalkalden Institut für Physikalische und Mechanische Technologien http://www.gfe-ipmt.de	VDI - GVC, Kompetenzfeld Nanotechnik (VDI-Gesellschaft für Verfahrenstechnik und Chemieingenieurwesen) http://www.vdi.de/nanotechnik
Institut für Oberflächenmodifizierung (IOM) Leipzig e.V. http://www.iom.uni-leipzig.de	Technische Universität Chemnitz (TUC) Zentrum für Mikrotechnologien (ZfM) Professur Opto- und Festkörperelektronik http://www.infotech.tu-chemnitz.de/~opto/ind...
Institut für Polymerforschung Dresden e. V. (IPF) http://www.ipfdd.de	Technische Universität Dresden (TUD) Institut für Werkstoffwissenschaft (IFWW) http://www.tu-dresden.de/mwiwwpww/ww.html
Papiertechnische Stiftung http://www.ptspaper.de	Technische Universität Dresden (TUD) Institut für Werkstoffwissenschaft (IFWW) Professur für Materialwissenschaft http://www.tu-dresden.de
Technische Universität Chemnitz (TUC) Zentrum für Mikrotechnologien (ZfM) Professur Mikrotechnologie http://www.infotech.tu-chemnitz.de/~zfm/inde...	Technische Universität Dresden (TUD) Institut für Halbleiter- und Mikrosystemtechnik (IHM) I http://www.tu-dresden.de
Technische Universität Dresden (TUD) Institut für Halbleiter- und Mikrosystemtechnik (IHM) II, Lehrstuhl für Halbleitertechnik http://www.tu-dresden.de/etihm/hlt/start.htm	

Finally IVAM (www.ivam.de) provides a broad podium of contacts and knowledge in order to enhance national and international exchange activities.

2.1.5 Italy

Italy's National Nanotechnology Laboratories are sited at the university of Lecce. NNL is a cross-disciplinar nanotechnology facility for nanometer scale research and technology. The center consists of about 60 people, including physicists, chemists, engineers and biologists.
The target of the center is the exploration and development of new concepts and new nano-systems exploiting either the bottom-up (self assembling and molecular engineering for hybrid organic/inorganic systems and mesoscopic systems) and the top-down approaches (ultimate resolution nano technologies applied to semiconductor nano structures), in the same mainframe.

The group is currently sponsored by the National Institute for the Physics of Matter (INFM) and the Ministry of Research and Technology (MURST) - beyond the participation in the European Community IV and V frame.

Second spearhead of nanotechnology in Italy is NEST the national enterprise for nano science and nanotechnology of pisa. Grants are available for INFM Scientists and Technicians who can bring their special knowledge and research talents in nano science to NEST, taking advantage of the experimental facilities and expertise provided by the centre. Innovation in nano science is the only requirement for participation. Current research activities at NEST focus on the fields of

- Coherent nanoelectronics
- Nanobiotechnology
- Spin electronics
- Theory of electron liquids in nanostructures

2.1.6 The Netherlands

STT (www.stt.nl) is sponsored by a huge variety of dutch corporations. STT's mission is to contribute to a more comprehensive vision of the future Netherlands' society, focusing on technological developments in the context of other societal developments. Knowledge transfer (fusion and diffusion) is one of the main tools STT uses to achieve this goal. Althouhg, a definite focus on nanotechnology is not sightable.

The microsystems and nanotechnology cluster (www.minac.nl) has the strongest focusation on industry related exchange with a broad relevant membership base.

2.1.7 United Kingdom

The Institute of Nanotechnology (IoN) is a registered charity. It was established in 1997 to provide a focus for the burgeoning interest in nanotechnology, encourage new research and keep the public aware of developments in this exciting field
The Institute is presently active in the following spheres:

- providing information to the public
- alerting industry to new developments
- encouraging information exchange between scientists
- identifying and coordinating new research projects
- promoting education and training

Although there are provisioned comprehensive reports on the European nanotechnology scene we doubt from its agenda, that it brings full industry intelligence.

2.1.8 Switzerland

Nanoscience.ch (www.nanoscience.ch) offers a comprehensive compilation of Swiss and foreign activities in the concerned field, but no commercial contacts. Academic input is available at SWITCH, the Swiss education and research network (www.switch.ch). The APTE Association (www.apte.net) offers broad on- and offline networking and knowledge exchange activities. The platform consolidates information without a linkage to financing.

CSEM Swiss Center for Electronics and Microtechnology, Inc. (www.csem.ch) is a privately held company carrying out:

- Applied research work.
- Product development.
- Prototype and low quantity production.

CSEM is principally active in the fields of micro technology, microelectronics, systems engineering and information systems. By offering its high-tech know-how, competencies and expertise, CSEM serves the needs of industrial partners. In particular, it supplies customized microsystems, microelectronic designs and system solutions, as well as specialized coatings and materials.

Capital Stage (www.capitalstagenano.com) is one of the first companies in the world to offer institutional investors a chance to focus on the extremely attractive potential of nanotechnology. Capital Stage Nanotech gives them access to a revolutionary technology platform that will soon boast a wide range of innovative applications and products. The project is currently on hold due to lack of interested investors. Nonetheless, the company conducted and provides comprehensive industry reports.

2.1.9 International

The European Nanobusiness Association (ENA) (www.nanoeurope.org) is an industrial and trade organisation founded to promote the professional development of the emerging business of nanotechnology at the European level.
It reflects the requirements of its member corporations, associated professionals and existing regional nanotechnology associations through:

- Providing education for the public
- Writing of position papers
- Analysis of legislation
- Drafting of standards
- Providing expert testimony to political leaders and decision makers.

Within these broad activities there is no access to financing sources.

A further network is the European Physical Society (www.eps.org) with several national affiliate organizations. The level of integration is not yet advanced, even if there is very strong content in the singular sites.

Gate2Growth (www.gate2growth.com) is a portal, bringing together a community of entrepreneurs, investors, service providers, and several networks supported by the European Commission. It offers suitable guidance an support to founders of new businesses as well as to interested investors or service providers. Focus is on all expanding and innovative businesses without specific industry segmentation of the site.

Within the FP6 program point “Structuring the European Research Area” is an project related to the nanotechnology launched. It will be highly suggestible to consolidate the ongoing activities with the findings thereof (www.cordis.lu/rtd2002/fp-activities/structuring.htm).

2.1.10 Industrial

There are several corporations which excel through multiple network memberships and an advanced interest in innovation activities. Amongst this group count:

Agfa-Gevart N.V. www.agfa.de
Unaxis AG www.unaxis.com
IBM Deutschland Speichersysteme GmbH www-5.ibm.com/de
Robert Bosch GmbH

www.bosch.de
Siemens AG Berlin www.siemens.de
Infineon Technologies AG München www.infineon.com
Merck Biomaterial GmbH www.merck.de
Wacker Siltronic AG www.wacker.de
Sachsen LB - Corporate Finance Holding GmbH Leipzig www.cfh.de
Leica Microsystems Wetzlar GmbH www.leica-microsystems.com
Hitachi High-Technologies Europe GmbH www.hsi-europe.com

Some of those are international players. The level of integration varies widely from country to country site.

2.1.11 Companies

In some national portals (as in Germany and the Netherlands) there are lists of active companies provided. This is a first step towards a full catalogue of the industry and would have to be consolidated on an EC wide basis. A necessary step towards achieving this would be the consolidation of the membership databases of the different entities. Exemplary lists of MINAC and IVAM are attached to this document.

3 Conclusion

3.1 Regions

The degree of documentation and engagement of national or regional initiatives may slightly mislead the identification of outstanding geographical regions. Major weights in means of activity and networking are identified at least in Germany, Switzerland, Austria and the Netherlands. Activities in Italy, France and the UK seem to be more nationally, often supported by direct state initiatives.

3.2 Entities

There is not yet a central database of the huge variety of entities potentially contributing to the sector. This may firstly result from the missing “industry definition” in most nations commerce charters or similar. Several initiatives have already installed databases – mostly structured in “institutions” and “companies”. The landscape is lacking linkage to financial active institutions. This seems unsatisfactory with respect to focused inquiries: A categorization in e.g. Finance, Market/Distributors, Applications/OEMs and Technology/Development would be more suitably fit the communities’ members’ requests.

3.3 Suggested Measures

EMINENT could crucially contribute towards transparency and therefore efficiency of the community/network by consolidating firstly its own databases and afterwards attracting and collecting input from further entities of the community of M@NT.

A necessary project step ist the provision, comparing and consolidation of the databases in one structured pool. Potentially this initiative’s challenge of integrating university, governmental, industrial and entrepreneurial activities will only be tackled by the broadly recognized authority and reputation of an European Commission initiative. It will be further crucial to install a central and efficient contact point (not only virtual, but personal responsibilities) in order to channel all inquiries to the existing expertise and gather reliable feedback on market developments.

The success of the initiative will be highly depending on the installation of a comprehensive, open and practical infrastructure which aligns existing excellence without redundancies.

Suggested steps: One member of EMINENT drafts the request to the other members and conducts the consolidation after delivery of the databases contents.

Draft work plan.

- Development of structure an grid for the appropriate data storage (dimensions, segments, functional order etc.)
- Technical analysis of existing databases within EMINENT in order to choose the most suitable as common platform
- Assessment of data security objectives and discussion of past experiences (e.g. data abuse within the LIFT network)
- Migration of present databases on the common structure and integration of the central database in the membership portals
- Acquisition of further participants, be it content delivery, be it (billable?) linkages and use of the database

4 Attachment

While comparing two representative databases it positively turns out that there are comprehensive but incoherent documentations and further process should be rather driven by consolidation than market research – in order to get an aligned database of all relevant entities (see WP 2.4).

4.1 Member Overview IVAM

Member companies of IVAM (linked to more descriptive data set each company):

accoris GmbH	Ilmenau, GER
Advanced Custom Sensors, Inc. (ACSI)	Irvine, USA
AML Applied Microengineering Ltd.	Oxfordshire, UK
APVV GmbH	Essen, GER
Battenfeld Spritzgießtechnik	Kottingbrunn, A
Bartels Mikrotechnik GmbH	Dortmund, GER
C2V	Enschede, NL
CAD-FEM GmbH	Grafing, GER
Campus Micro Technologies GmbH (CMT)	Bremen, GER
COLANDIS GmbH	Jena, GER
Coventor BV	Paris, F
CPC- Cellular Process Chemistry Systems GmbH	Frankfurt/Main, GER
Carinthian Tech Research GmbH	Villach, A
DELTA Danish Electronics, Lights & Acoustics	Hörsholm, DK
Dolphin Integration GmbH	Meylan, F
Ehrfeld Mikrotechnik AG	Wendelsheim, GER
Elliptec Resonant Actuator AG	Dortmund, GER
elmicron AG	Zug, CH
ELMOS Semiconductor AG	Dortmund, GER
EM Technologies	Nijmegen, NL
Enjoyventure Management GmbH	Düsseldorf, GER
ETA-Optik Gesellschaft für optische Meßtechnik mbH	Heinsberg, GER
ETR Elektronik Technologie Rump GmbH	Dortmund, GER
ETR-PS GmbH	Dortmund, GER
EV Group E. Thallner GmbH	St. Florian, A
FRT Fries Research and Technology GmbH	Bergisch Gladbach, GER
GERWAH Mikrotechnik GmbH	Großwallstadt, GER
GfG Gesellschaft für Gerätebau mbH	Dortmund, GER
Harting KGaA	Espelkamp, GER

HL-Planartechnik GmbH	Dortmund, GER
HNP Mikrosysteme GmbH	Parchim, GER
ic-automation GmbH	Bodenheim, GER
Intelligent Microsystem Center	Seoul, Korea
Institut für Mikrotechnik Mainz GmbH	Mainz, GER
Intelligent Implants GmbH	Bonn, GER
in2systems GmbH	Schwerte, GER
Jenoptik Mikrotechnik GmbH	Jena, GER
Klocke Nanotechnik	Aachen, GER
KÖNIG Technische Keramik GmbH,	Diemelstadt-Hesperinghausen, GER
LEISTER Process Technologies	Sarnen, CH
LIMO GmbH	Dortmund, GER
LioniX BV	Enschede, NL
MEMSCAP GmbH	Berlin, GER
Micro Mechatronic Technologies AG	Siegen, GER
microFAB Bremen GmbH	Bremen, GER
micro*montage BV	Hengelo, NL
micronit microfluidic bv	Enschede, NL
MICROSENS Gesellschaft für Mikrosystemtechnik mbH	Hamm, GER
micro resist technology GmbH	Berlin, GER
microTEC Gesellschaft für Mikrotechnologie mbH	Duisburg/Bad Dürkheim, GER
Micro Powder Research Inst.	Tokyo, Japan
MicroVenture GmbH & Co. KGaA	Köln, GER
Mi La Sys technologies GmbH	Stuttgart, GER
mgt mikroglas technik AG	Mainz, GER
Mildendo Gesellschaft f. mikrofluidische Systeme GmbH	Jena, GER
mymotor & actuators gmbh	Wendelsheim, GER
myonic AG	Biel, CH
NanoFocus AG	Duisburg, GER
NanoPhotonics AG	Mainz, GER
polyMaterials AG	Kaufbeuren, GER
Polytec GmbH	Waldbronn, GER
Pointe GmbH	Extertal, GER
Protron Mikrotechnik GmbH	Bremen, GER
Raith GmbH	Dortmund, GER
RKT Rodinger Kunststoff-Technik GmbH	Roding, GER
Horst Scholz GmbH & Co. KG	Kronach, GER
SLS Micro-Technology GmbH	Hamburg, GER
SLV Duisburg GmbH	Duisburg, GER
STEAG microParts GmbH	Dortmund, GER
SuNyx Surface Nanotechnologies GmbH	Köln, GER
Syntens	Eindhoven, NL

TAISEI KOGYO CO.,LTD.	Neyagawa city, Osaka pref, Japan
technotrans AG	Sassenberg, GER
TechnologieZentrumDortmund GmbH	Dortmund, GER
thinXXS GmbH	Zweibrücken, GER
Trace Biotech AG	Braunschweig, GER
TRONIC'S Microsystems	Grenoble, F
TUILASER AG	Germering, GER
UST Umweltsensortechnik GmbH	Geschwenda, GER
WTC-Wicht Technologie Consulting	München, GER
ZAVT GmbH	Lippstadt, GER
Carl Zeiss AG	Oberkochen, GER
Zumtobel Staff GmbH	Dornbirn, A

4.2 Member Overview MINAC

The MINAC database offers coordinates, short profiles and brief presentations of its members. There are no search functions.

3T B.V.
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