

The Society for Microelectronics (GMe — Gesellschaft für Mikroelektronik)

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1. Goals of the Society for Microelectronics

The Society for Microelectronics (GMe) was founded in 1985 with the aim to “*support microelectronics technology and its applications*” in Austria. The GMe defines its tasks as follows:

- Support of university-based “high-tech” research in the areas of microelectronics, semiconductor technology, sensors, and opto-electronics;
- Operation of research facilities;
- Support and consulting for industry, in particular, for small and medium enterprises, within the area of microelectronics.

The central task of the GMe is to provide an internationally competitive *infra-structure* in the area of microelectronics technology. The GMe allocates funds to maintain research projects in the fields of semiconductor technology, sensors, opto-electronics, and ASIC design. Thus the infra-structure support generates a base for research projects that are funded by other funding agencies.

2. Activities of the Society

The present focal point activities of the GMe are:

- Operation of university-based laboratories for microelectronics technology;
- Design of application specific integrated circuits (ASICs) —TMOe.

The GMe currently supports mainly the first focal point activity but also coordinates the Austria-wide activities of the TMOe program.

The main task of the GMe in the area of microelectronics technology is the operation of the cleanroom laboratories in Vienna and Linz. The GMe has coordinated the construction of the Microstructure Center (MISZ — Mikrostrukturzentrum) in Vienna; the funds were supplied by the Austrian Federal Ministry of Science and Research. The GMe now finances a significant part of the operation costs for the cleanroom laboratories in Vienna and Linz.

2.1 Microelectronics Technology — Cleanroom Vienna

The following university institutes receive support within this focal point activity:

- TU Wien:
 - Institut für Festkörperelektronik
 - Institut für Allgemeine Elektrotechnik und Elektronik

2.2 Microelectronics Technology — Cleanroom Linz

The following university institutes receive support within this focal point activity:

- Johannes Kepler Universität Linz:
 - Institut für Halbleiterphysik
 - Institut für Experimentalphysik
 - Institut für Mikroelektronik

3. Other Activities of the Society

One of the declared tasks of the GMe is to provide information on current Austrian academic activities in the field of microelectronics to industry, in particular to Austrian small- and medium enterprises (SMEs). This will improve the transfer of “know-how” between Austrian universities and industry. As an example, the GMe supplied editorial articles to an Austrian publishing house that targets its magazines on the management and technical staff of Austrian industrial enterprises. The articles presented some of those projects supported by the GMe that had a direct impact on Austrian industry.

To enhance the distribution of the results of the research work done with GMe support, the GMe has put the contents of its previous annual reports — 1995 through 1997 — on its Web server; this will also happen for this report. Although we did not explicitly advertise on a larger scale the existence of this server and its contents, it has apparently been fairly well accepted by the international community. Access statistics show an average access of 3 counts per day; however, an amazingly large percentage of these accesses — close to 50 per cent — originates from net domains outside Austria. About one quarter of the visitors of the GMe’s web site visited it more than once. The GMe Web server is available under the URL:

<http://www.iaee.tuwien.ac.at/gme/>

Finally, the GMe prepared and carried out the biennial seminar “*Aktuelle Entwicklungen der Mikroelektronik*” in Bad Hofgastein, Salzburg, which took place in March 1999. The predecessor of this seminar has first been held in 1977 in Großarl; since 1987, the GMe contributes financial support, and since 1993, the Society acts as its main organizer. The seminar presented thirteen invited lectures given by international experts, and 25 oral and poster contributions which resulted from work supported by the GMe. The program of this seminar is included in the appendix of this report. For the first time, greater emphasis was put into making the seminar more attractive to an industrial audience, thus intending an enhanced knowledge transfer between universities and industry.

4. The Annual Report for 1998 of the Society for Microelectronics

The GMe is currently supporting the microelectronics technology activities of the cleanroom laboratories in Vienna and Linz.

All projects described in this report were carried out in the cleanrooms in Vienna and Linz, respectively. They are *not* specific projects of the GMe but were funded by a variety of other sources. They all have in common that they use the infra-structure provided by the GMe. It would therefore not have been possible to carry out these projects without the support by the GMe.