

The Competitiveness of European GaAs Foundries

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Abstract

It is now four years since the EUROGaAs Initiative was launched. What effect has this initiative had on the world wide competitiveness of European made GaAs based components? This paper will describe, what the author believes, is a major improvement in market share for the Europeans.

Whilst collaboration between the 'Seven' is strong, in many areas of the market the companies are competing for business. In this regard the EUROGaAs initiative must be unique.

Introduction

In March 1992 at a meeting in Rome between the Seven major European GaAs component manufactures, National Government representatives and the European Commission, a structured plan to improve the world wide competitiveness of European GaAs was initiated. At that time the sales of GaAs MMICs from European sources was virtually zero. In the four years since 1992 the Seven companies, Alenia, Alcatel, Daimler Benz, GEC-Marconi Materials Technology Ltd, Philips Microwave, Siemens and Thompson CSF have worked together in EC and Eureka projects to enhance their strengths and strengthen their weaknesses. This has led to a strong growth in the market share for European manufactured GaAs MMICs.

Impact on the World Market

Whilst being competitors, the Seven companies have many unique attributes leading to a certain degree of complimentary. Processes on offer through Foundry are different, the emphasis placed on Foundry is different, the markets addressed are different - some aiming for high volume, others at niche areas. Some companies are focusing on mobile phones for example, others at millimetre waves for automobile applications. Power devices and circuits are the forte' of other companies. Whatever the strengths, it mounts to almost a total coverage of current market needs.

Strengths & Weaknesses

Initial phases of the collaboration focused on the impediments to improving market share. This was found not to be a lack of technology but a weakness in the infrastructure. The key areas were associated with manufacturing and the USER perception of the European capability. These weaknesses were addressed in an EC supported programme called EGIP in which all Seven companies took part, the EUROGaAs Infrastructure Project. In this programme the Seven collaborated closely to enhance their manufacturing capability. The programme also held meetings across Europe to explain to potential GaAs USERS what European GaAs had to offer.

The impact on the world wide merchant market has been tremendous. In the four years since 1992 the European share of the MMIC world market has increased from virtually zero to around 15%. Table 1 shows the progress of this push for more market share.

Other EC supported projects produced prototype MMICs for use in hand held telephones, VSAT, millimetre wave links etc, all components that would enable the participants to compete more favourably in world markets

Improved Competitiveness

The collaboration between the Seven companies has been extremely open with each sharing its problems and ideas to solve them. This has led to improved technologies, a better understanding of Manufacturing methods and a sounder USER interface, resulting in increased productivity and the availability in the market place of cost and performance competitive products.

Year	World Wide Sales m	European Sales m	Market Share %
1992	87	1.8	2
1993	100	6	6
1994	123	12.3	10
1995	208	28	14

Data Source : GIGA Information Group

The Future

The prospects for continuing improvement in market share are good. The USERS are becoming more confident that European GaAs companies can supply the volumes of parts required, at the right price and with proven reliability. The European component makers are also confident that with continuing support from National Government and the EC that they can meet the considerable challenges of price and volume pressures being exerted by GaAs component makers across the world.

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