

MEMS Foundries report

The only worldwide report on MEMS foundry companies and markets

MAIN CHALLENGE

In a difficult context of financial downturn, MEMS foundries are the new key players of the MEMS industry. Major open MEMS foundries are now profitable for most of them, ready to upgrade facilities to 8-inch production lines.

Growth of the consumer applications and other market opportunities attracts new entrants coming from mainstream semiconductor to optimize production line already dedicated to high volume, combining CMOS technology and MEMS. A strong competition will start with dedicated MEMS foundries and new players experienced in volume production. MEMS Foundry market is still very fragmented. Largest markets for MEMS foundries are inkjet printheads using mainly "exclusive" foundries services, but open foundries are developing innovative platforms addressing new applications like RF-MEMS or microphones. Foundries have developed different approaches from product platform to fixed process offering added value products or feasibility studies in the case of Multi-project Wafer (MPW).

MEMS Foundries have now to clarify their positioning offering fixed processes or product platforms depending on their business models.

MARKET METRICS

With more than 50 companies identified worldwide, MEMS foundries are the new key partners of the MEMS industry. With more than US\$480 million in 2008, foundry market represents an increase of 22% from 2007. A performance to highlight in a difficult context, but some slowdown perceived in the last 2008 quarter. However, MEMS foundries do not expect more than flat or one digit revenues increase for the year 2009 with low visibility on booking. MEMS market share captured by foundries is globally increasing for most of products because organization of MEMS industry is stabilizing with emerging MEMS companies choosing fabless or fablites business models and sharing with the MEMS foundries the production risks of new products.

a/ MEMS Foundries report focus on the segmentation of this part of the MEMS value chain, highlighting MEMS foundry markets and trends.

b/ MEMS Foundries report is the only report showing how the foundries will gain market shares in the MEMS market, and the key criteria to understand why MEMS companies are more interested in Foundries today.

c/ Acquiring MEMS Foundries report, you will save time to identify major MEMS foundries and the most dedicated foundry partner to your activity.

OBJECTIVE OF THE REPORT

MEMS Foundries report is focusing on an original business model of the MEMS industry, highlighting major players with ranking for 2008 sales and compared to year 2007. The report will allow you to better understand the dynamism of these players, as well as a fine segmentation of MEMS foundries. MEMS foundry market will give you information on how typical Foundry revenues are generated, from development services to wafer processing. Finally, MEMS Foundries report will provide you the latest trends and information on MEMS Foundry activities: Major changes in the MEMS industry and interest for Foundries, new entrants, MEMS foundry opportunities and also new technological focuses for foundries.

WHO SHOULD BUY THE REPORT

- The executive of MEMS companies in order to think out of the box and look at the complete MEMS business and the major evolution that could impact the industry in the long term
- The technology team of MEMS companies, willing to learn from the development of the other parts of the MEMS industry
- The end users, trying to understand the evolution of the MEMS industry and find data on each applications and who is doing what
- The marketing and technology team of equipment and materials manufacturers, willing to have a complete picture of MEMS world and the key metrics of the industry

KEY BENEFITS OF THE REPORT

“MEMS Foundry” is a generic name of companies increasing activities and market share in MEMS industry. The report will help you to understand characteristics and typologies of MEMS foundries. You will be able will to identify your future production partners easily, and also understand the key criteria of MEMS foundry dynamism today. Major trends will give you opportunity to foresee evolution of MEMS Foundry organization and offers.

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ABOUT YOLE DÉVELOPPEMENT

Our commitment is to facilitate market access for innovative technology, devices, equipment and materials in the disruptive semiconductor businesses. Founded in 1998, Yole Développement is involved in the following fields, with strong leadership worldwide:

- MEMS Devices and Equipment & Materials for MEMS manufacturing
- Compound Semiconductors
- Nanomaterials
- Photovoltaic
- Microfluidics
- 3D IC/TSV & Advanced Packaging

Our services and publications:

- Market research
- Technology analysis
- Strategy consulting
- M&A support and due diligence
- Magazine Publication Micronews (print version and on line services)
- Exclusive newsletters in MEMS, 3D IC, photovoltaic, compound semiconductors and microfluidics
- Market reports & Database

Yole Développement is the world leader in the analysis of disruptive semiconductor applications and markets. Each day, Yole Développement's team of 20 market analysts is in contact with industrial companies, R&D institutes and investors worldwide in order to help them understand the market and technology trends. In its analysis, Yole Développement takes into account the complete value chain including materials, equipment suppliers, device & system manufacturers and end users.

TERMS AND CONDITIONS OF SALE

Definitions: "Acceptance": Action by which the Buyer accepts the terms and conditions of sale in their entirety. It is done by ticking the box "I accept the conditions".

"Buyer": Any business user (i.e. any person acting in the course of its business activities, for its business needs) entering into the following general conditions to the exclusion of consumers acting in their personal interests.

"Contracting Parties" or "Parties": The Seller on the one hand and the Buyer on the other hand.

"Intellectual Property Rights" ("IPR") means any rights held by the Seller in its Products, including any patents, trademarks, registered models, designs, copyrights, inventions, commercial secrets and know-how, technical information, company or trading names and any other intellectual property rights or similar in any part of the world, notwithstanding the fact that they have been registered or not and including any pending registration of one of the above mentioned rights.

"License": For the reports and databases, 3 different licenses are proposed. The Buyer has to choose one license: 1. Single user license: the purchaser is the sole authorized user of the report 2. Multi-user, single site license: the report can be used by various users provided that the report is only used within the same company at same post address 3. Multi-user, multi-site license: the report can be used by various users within the same company or group and its subsidiaries (more than 50% share) at a global scale.

"Products": Depending on the purchase order, reports or database on MEMS, CSC, Optics/MOEMS, Nano, bio... to be bought either on a unit basis or as an annual subscription. (i.e. subscription for a period of 12 calendar months). The annual subscription to a package (i.e. a global discount based on the number of reports that the Buyer orders or accesses via the service, a global search service on line on I-micronews and a consulting approach), is defined in the order. Reports are established in PowerPoint and delivered on a PDF format and the database may include Excel files.

"Seller": Based in Lyon (France headquarters), Yole Développement is a market research and business development consultancy company, facilitating market access for advanced technology industrial projects. With more than 18 consultants, Yole works worldwide with the key industrial companies, R&D institutes and investors to help them understand the markets and technology trends.

1. Scope

1.1 The Contracting Parties undertake to observe the following general conditions when agreed by the Buyer and the Seller. ANY ADDITIONAL, DIFFERENT, OR CONFLICTING TERMS AND CONDITIONS IN ANY OTHER DOCUMENTS ISSUED BY THE BUYER AT ANY TIME ARE HEREBY OBJECTED TO BY THE SELLER, SHALL BE WHOLLY INAPPLICABLE TO ANY SALE MADE HEREUNDER AND SHALL NOT BE BINDING IN ANY WAY ON THE SELLER.

1.2 This agreement becomes valid and enforceable between the Contracting Parties after clear and non-equivocal consent by any duly authorised person representing the Buyer. For these purposes,

the Buyer accepts these conditions of sales when ticking the box "I accept the conditions". This results in acceptance by the Buyer.

1.3 Orders are deemed to be accepted only upon written acceptance and confirmation by the Seller, within [7 days] from the date of order, to be sent either by email or to the Buyer's address. In the absence of any confirmation in writing, orders shall be deemed to have been accepted.

2. Mailing of the Products

2.1 Products are sent by email to the Buyer:

- within [1] month from the order for Products already released; or

- within a reasonable time for Products ordered prior to their effective release. In this case, the Seller shall use its best endeavours to inform the Buyer of an indicative release date and the evolution of the work in progress.

2.2 Some weeks prior to the release date the Seller can propose a pre-release discount to the Buyer

The Seller shall by no means be responsible for any delay in respect of article 2.2 above, and including incases where a new event or access to new contradictory information would require for the analyst extra time to compute or compare the data in order to enable the Seller to deliver a high quality Products.

2.3 The mailing of the Product will occur only upon payment by the Buyer, in accordance with the conditions contained in article 3.

2.4. The mailing is operated through electronic meanseither by email via the sales department or automatically online via an email/password. If the Product's electronic delivery format is defective, the Seller undertakes to replace it at no charge to the Buyer provided that it is informed of the defective formatting within 90 days from the date of the original download or receipt of the Product.

2.4 The person receiving the Products on behalf of the Buyer shall immediately verify the quality of the Products and their conformity to the order. Any claim for apparent defects or for non-conformity

shall be sent in writing to the Seller within 8 days of receipt of the Products. For this purpose, the Buyer agrees to produce sufficient evidence of such defects. .

2.5 No return of Products shall be accepted without prior information to the Seller, even in case of delayed delivery. Any Product returned to the Seller without providing prior information to the Seller as required under article 2.5 shall remain at the Buyer's risk.

3. Price, invoicing and payment

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3.3 Payments due by the Buyer shall be sent by cheque payable to Yole Développement, credit card or by electronic transfer to the following account:

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To ensure the payments, the Seller reserves the right to request down payments from the Buyer. In this case, the need of down payments will be mentioned on the order.

3.3 Payment is due by the Buyer to the Seller within 30 days from invoice date, except in the case of a particular written agreement. If the Buyer fails to pay within this time and fails to contact the Seller, the latter shall be entitled to invoice interest in arrears based on the annual rate Refi of the «BCE» + 7 points, in accordance with article L. 441-6 of the French Commercial Code.

3.4 In the event of termination of the contract, or of misconduct, during the contract, the Seller will have the right to invoice at the stage in progress, and to take legal action for damages.

4. Liabilities

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4.2 The Seller shall only be liable for (i) direct and (ii) foreseeable pecuniary loss, caused by the Products or arising from a material breach of this agreement

4.3 In no event shall the Seller be liable for:

a) damages of any kind, including without limitation, incidental or consequential damages (including, but not limited to, damages for loss of profits, business interruption and loss of programs or information) arising out of the use of or inability to use the Seller's website or the Products, or any information provided on the website, or in the Products;

b) any claim attributable to errors, omissions or other inaccuracies in the Product or interpretations thereof.

4.4 All the information contained in the Products has been obtained from sources believed to be reliable. The Seller does not warrant the accuracy, completeness adequacy or reliability of such information, which cannot be guaranteed to be free from errors.

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4.8 The Seller does not make any warranties, express or implied, including, without limitation, those of saleability and fitness for a particular purpose, with respect to the Products. Although the Seller shall take reasonable steps to screen Products for infection of viruses, worms, Trojan horses or other codes containing contaminating or destructive properties before making the Products available, the Seller cannot guarantee that any Product will be free from infection.

5. Force majeure

The Seller shall not be liable for any delay in performance directly or indirectly caused by or resulting from acts of nature, fire, flood, accident, riot, war, government intervention, embargoes, strikes, labor difficulties, equipment failure, late deliveries by suppliers or other difficulties which are beyond the control, and not the fault of the Seller.

6. Protection of the Seller's IPR

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6.5 In the context of annual subscriptions, the person of contact shall decide who within the Buyer, shall be entitled to access on line the reports on I-micronews.com. In this respect, the Seller will give the Buyer a maximum of 10 password, unless the multiple sites organisation of the Buyer requires more passwords. The Seller reserves the right to check from time to time the correct use of this password.

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7.2 In the event of breach by one Party under these conditions or the order, the non-breaching Party may send a notification to the other by recorded delivery letter upon which, after a period of thirty (30) days without solving the problem, the non-breaching Party shall be entitled to terminate all the pending orders, without being liable for any compensation.

8. Miscellaneous

All the provisions of these Terms and Conditions are for the benefit of the Seller itself, but also for its licensors, employees and agents. Each of them is entitled to assert and enforce those provisions against the Buyer.

Any notices under these Terms and Conditions shall be given in writing. They shall be effective upon receipt by the other Party.

The Seller may, from time to time, update these Terms and Conditions and the Buyer, is deemed to have accepted the latest version of these terms and conditions, provided they have been communicated

to him in due time.

9. Governing law and jurisdiction

9.1 Any dispute arising out or linked to these Terms and Conditions or to any contract (orders) entered into in application of these Terms and Conditions shall be settled by the French Commercial Courts of Lyon, which shall have exclusive jurisdiction upon such issues.

9.2 French law shall govern the relation between the Buyer and the Seller, in accordance with these Terms and conditions.