



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

June 9, 2011

Steven Nasiri
President, Chief Executive Officer
and Chairman
InvenSense, Inc.
1197 Borregas Avenue
Sunnyvale, CA 94089

Re: InvenSense, Inc.
Amendment No. 1 to Registration Statement on Form S-1
Filed May 24, 2011
File No. 333-167843

Dear Mr. Nasiri:

We have reviewed your registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Management's Discussion and Analysis, page 40

Results of Operations, page 44

1. We note the variances in income from operations and net income during the periods presented. Under separate captions, please expand your disclosure to explain clearly to investors the reasons for the variances in your operating and net income for the periods presented. Also disclose any known material trends affecting your operating and net income for the periods presented.

Customers, page 76

2. Please tell us your basis for including a reference in your prospectus to each of the customers mentioned at the top of page 76.

Manufacturing, page 77

3. We note your disclosure that “[i]n contrast to many fabless MEMS companies, which utilize standard process technologies and design rules established by their MEMS foundry partners, we have developed our own proprietary Nasiri-Fabrication platform and collaborated with our foundry partners to install our fabrication technology on their equipment in their facilities solely for manufacturing our products.” Given that you use your proprietary fabrication technology in collaboration with your foundry partners and a majority of your wafers are provided by Taiwan Semiconductor, please discuss the material terms of your agreements with Taiwan Semiconductor and file the agreement as an exhibit to your registration statement or tell us why it is not required to be filed by Regulation S-K Item 601(b)(10).
4. Given your disclosure noted in the prior comment regarding the co-location of your fabrication technology with the equipment of your foundry partners, please expand your risk factor beginning at the top of page 14, as applicable, to the extent that this arrangement limits the number of foundries that you could partner with or would delay your ability to qualify additional foundries, etc.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company’s disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

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Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Please contact Louis Rambo at (202) 551-3289 or Tim Buchmiller, reviewing attorney, at (202) 551-3635 with any other questions.

Sincerely,

Amanda Ravitz
Assistant Director

cc (fax): John W. Campbell III, Esq.
 Andrew D. Thorpe, Esq.
 Alfredo B. D. Silva, Esq.
 Morrison & Foerster LLP