



DIVISION OF
CORPORATION FINANCE

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

October 23, 2013

Via E-mail

Fusen E. Chen
President and Chief Executive Officer
Mattson Technology, Inc.
47131 Bayside Parkway
Fremont, California 94538

**Re: Mattson Technology, Inc.
Registration Statement on Form S-3
Filed October 11, 2013
File No. 333-191686**

Dear Dr. Chen:

We have limited our review of your registration statement to those issues we have addressed in our 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. Where 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.

Description of the Debt Securities, page 19

1. It appears from your disclosure in the 11th bullet point on page 20 of your prospectus and the 11th bullet point on page 24 of your prospectus that you may offer guaranties or include additional obligors. Please revise to include these guarantees in the fee table and file an opinion of counsel that covers these securities, or revise your disclosure as appropriate. Also, please tell us why the additional obligors are not identified in your filing as registrants.

Exhibit 5.1

2. Please provide a legality opinion that states that, in the opinion of counsel, the depositary shares will, when sold, be legally issued and will entitle their holders to the rights specified in the depositary agreement and the depositary receipts.

3. Please file an opinion of counsel to cover the rights issuable under your shareholder rights plan. For guidance refer to Section II.B.1.g of Staff Legal Bulletin No. 19 (October 14, 2011), available at <http://www.sec.gov/interps/legal/cfslb19.htm>.
4. Please file an opinion that does not include the qualification as to jurisdiction contained in the last sentence of the penultimate paragraph of this exhibit. For guidance, refer to Section II.B.3.b of Staff Legal Bulletin No. 19.

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.

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.

Fusen E. Chen
Mattson Technology, Inc.
October 23, 2013
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You may contact Ted Moskovitz at (202) 551-3689 or me at (202) 551-3617 with any questions.

Sincerely,

/s/ Russell Mancuso

Russell Mancuso
Branch Chief

cc (via e-mail): Michael A. Occhiolini