



DIVISION OF
CORPORATION FINANCE

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

July 31, 2013

Via E-mail

Thomas Gutierrez
President and Chief Executive Officer
GT Advanced Technologies Inc.
243 Daniel Webster Highway
Merrimack, NH 03054

**Re: GT Advanced Technologies Inc.
Amendment No. 1 to Registration Statement on Form S-3
Filed July 19, 2013
File No. 333-189170**

Dear Mr. Gutierrez:

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.

Prospectus Cover

1. We note your response to prior comment 2; however, your prospectus cover suggests that the selling shareholders may offer any of the securities registered for sale. Please revise to clarify.

About this Prospectus, page 1

2. Please provide us your analysis of why you believe it is appropriate to register for resale at this time the shares in escrow. Include in your response the purpose and terms of the escrow and specific reference to all authority on which you rely. If you believe the agreement need not be filed as an exhibit, please provide us a copy.

Our Company, page 2

3. We note the second paragraph of your response to prior comment 1. However, it remains unclear how your prospectus summary, which should highlight the most significant aspects of the offering, is complete without summarizing key information related to your results and financial position including those items mentioned in the last sentence of prior comment 1. Please revise your prospectus summary accordingly.

Exhibit 5.1

4. Please address the first sentence of prior comment 4 as it applies to clause (ii) on the first page of the opinion.
5. Please file an opinion that addresses the shares offered by the selling stockholders. If true, the opinion should reflect that the shares are outstanding. Also, the opinion regarding outstanding shares that are being offered by the selling stockholders should not include conditions and assumptions that might be appropriate for a delayed shelf offering as explained in Staff Legal Bulletin No. 19 (October 14, 2011) section II.B.2.a.

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

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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 Joseph McCann at (202) 551-6262 or me at (202) 551-3617 with any questions.

Sincerely,

/s/ Russell Mancuso

Russell Mancuso
Branch Chief

cc (via email): Christopher D. Comeau, Esq. – Ropes & Gray LLP