



DIVISION OF  
CORPORATION FINANCE

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

February 26, 2013

Via E-mail

Helene Simonet  
Executive Vice President and Chief Financial Officer  
Coherent, Inc.  
5100 Patrick Henry Drive  
Santa Clara, CA 95054

**Re: Coherent, Inc.  
Form 10-K for the Year Ended September 29, 2012  
Filed November 28, 2012  
Response submitted February 11, 2013  
File No. 001-33962**

Dear Ms. Simonet:

We have reviewed your response letter and have the following comment. Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. If you do not believe our comment applies to your facts and circumstances please tell us why in your response.

After reviewing the information you provide in response to this comment, we may have additional comments.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 26

1. Refer to the revision in your response to prior comment 2. You seem to be referring merely to likely fluctuations, rather than clearly explaining the trend mentioned in your October 31, 2012 conference call that excimer systems are becoming a larger portion of your revenue making you more susceptible to wider swings in revenue. Please note the requirements of Regulation S-K Item 303(a)(3)(ii), and confirm to us that your future filings will describe clearly known trends or uncertainties as required by that Item.

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 Exchange Act of 1934 and all applicable Exchange 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.

Helene Simonet  
Coherent, Inc.  
February 26, 2013  
Page 2

In responding to our comment, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

You may contact Andri Boerman at (202) 551-3645 or Brian Cascio at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Brian Soares, at (202) 551-3580, or me at (202) 551-3617 with any other questions.

Sincerely,

/s/ Russell Mancuso

Russell Mancuso  
Branch Chief

cc (via e-mail): Jose Macias