

# SIEMENS

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Medical devices and pharmaceuticals

## Cercacor

Healthcare technology innovator uses Polarion software to reduce test creation time by up to 75 percent

### Product

Polarion

### Business challenges

Develop more efficient methods for creating and managing test cases

Address quality assurance issues

Create a central repository to reduce redundant processes

Establish process visibility

### Keys to success

Use Polarion to unify test and quality management initiatives

Replace paper-based processes with automated technology

Integrate existing IT solutions

### Results

Reduced test plan creation time by up to 75 percent

Established a central repository for test data

Created visibility and accountability across testing efforts

### Siemens PLM Software helps Cercacor create visibility and accountability across testing programs

#### Innovation in athletic performance monitoring

Cercacor Laboratories, Inc. (Cercacor) is an innovator in health and athletic performance monitoring technologies. Based in Irvine, California, the company provides noninvasive tracking technologies that are used by leading hospitals around the world and licensed under the name Masimo rainbow SET® (signal extraction technology).

Extending its state-of-the-art expertise beyond hospital environments, Cercacor created Ember™, a device that measures hemoglobin levels and pulse rate, two of the most sought-after performance and race-readiness indicators for the athletic market.

As the company began its Ember project, it needed to find a more efficient way to create and manage test cases and other quality assurance activities. "We realized

that we needed a central repository for access to the same documents without versioning and searching problems," says Howard Chan, a test engineer at Cercacor. "We also wanted visibility into the testing process so everyone can see the same software requirements, comments and changes. These goals were not practical with our previous procedure of dispersed spreadsheet documents."

#### The solution

Cercacor evaluated Polarion ALM™ software and Polarion QA™ software from ALM and product lifecycle management (PLM) specialist Siemens Software for the best solution to meet its needs. After an in-depth internal validation process, Cercacor selected Polarion solutions to unify its test and quality management initiatives.

"The validation process went very smoothly," says Chan. "We defined our use cases and found that Polarion solutions met all of our needs and more."



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Howard Chan  
Test Engineer  
Cercacor Laboratories, Inc.

The company’s initial goal was to support the development of its Ember project. Even though Ember is marketed as a nonmedical device, Cercacor is required to adhere to the United States Food and Drug Administration (FDA) 21 Code of Federal Regulations (CFR) 820.30 according to International Organization for Standardization (ISO) 13485 for medical devices.

“We use Polarion ALM and Polarion QA to define and track our tests and demonstrate that we meet all software requirements, including special attention to safety standards,” says Chan. “The software gives us visibility into and traceability of our test cases and helps us meet required specifications.”

#### **Ease of integration**

Cercacor easily integrated Polarion software with its other resources, including tracking software used by members of the company’s development team.

“Polarion software is an out-of-the-box solution with built-in connectors that allows us to plug directly into our existing tracking software,” says Chan.

Ease of integration with Polarion includes the ability to incorporate scenarios created with third-party applications, and allowing import and export of data with existing solutions such as Microsoft® Excel® spreadsheet software and Microsoft Word. Another popular feature for Cercacor is the option to select specific test cases and combine them into custom test runs.

***“By using Polarion solutions, we reduced test plan creation time by as much as 75 percent.”***

Howard Chan  
Test Engineer  
Cercacor Laboratories, Inc.

# *“Polarion software helps us provide critical accountability and visibility to ensure that all test criteria are met and verified.”*

Howard Chan  
Test Engineer  
Cercacor Laboratories, Inc.

## **The benefits**

With the implementation of Polarion, Cercacor was able to greatly reduce its test plan creation time, provide a central repository for test data and create visibility across testing efforts.

“By using Polarion solutions, we reduced test plan creation time by as much as 75 percent,” says Chan. “Previously it took two days to create a test plan, and we cut that time to a single day or, in many cases, half a day.”

“We can now automatically create and number work IDs, replacing our paper-based system and streamlining the process,” says Chan.

The qualification analysis team can also create custom fields when working with Polarion solutions.

“When managing software requirements, the Polarion software gives us the ability to create custom fields that can be associated with different document numbers or other criteria,” says Chan. “The customization provides us with the opportunity to easily identify specific work items or documents when managing requirements.”

## **Central repository**

By using Polarion, Cercacor can establish a central repository for its qualification analysis documentation, saving time and preventing frustration that used to occur with previous document searches and version control.

“With Polarion software’s central repository, we don’t have to worry about routing redundant documents or trying to determine where the most recent documents or spreadsheets are stored,” says Chan. “We no longer need to manually update documents, as changes are automatically imported back into the central repository.”

Revision history is also valuable. “We use the revision history option to track changes that have been made in earlier versions of the process,” says Chan. “To check changes made within the past month, I can easily click to any of the different instances, and the Polarion software helps me automatically compare any prior instance with a current one. This is a very powerful feature.”

Polarion solutions also make it easy for Cercacor to perform searches at any level. “Before we had Polarion software, it was very time consuming to search for specific fields, columns, values and other elements within Word documents and Excel spreadsheets,” says Chan. “We are definitely happy we can streamline this process.”

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## Solutions/Services

Polarion ALM  
Polarion QA  
[www.siemens.com/polarion](http://www.siemens.com/polarion)

## Customer's primary business

Cercacor Laboratories, Inc. is a technology innovator, offering easy-to-use health and performance monitoring technologies. The company's primary product is Ember, a noninvasive hemoglobin tracker for athletes. Cercacor's technologies are licensed by Masimo Corporation, a global leader in the development and distribution of monitoring solutions in the healthcare professional market.  
[www.cercacor.com](http://www.cercacor.com)

## Customer location

Irvine, California  
United States

## Visibility of testing processes

By using Polarion, Cercacor gained visibility into its testing process. "From a high-level overview to a very detailed review, we can see how testing progresses," says Chan. "We can easily track testing across all software requirements, including the needs of users, engineering and marketing. Polarion software helps us provide critical accountability and visibility to ensure that all test criteria are met and verified."

The flexibility of Polarion, with its browser-based wiki pages and traceable fields, allows Cercacor to support an agile approach to testing in which software requirements can be refined to ensure efficiency of testing.

"Through the process of breaking down high-level requirements into a set of test cases, we often find better ways to manage the verification and validation

process," says Chan. "The visibility we have gained by using Polarion software enables us to see if software requirements have been satisfied and continually refine processes to align with our development methodology."

## Recommending Polarion

Polarion QA has proven to be such a powerful, easy-to-use solution that Cercacor has recommended it to other companies.

"I have a colleague at another company and we've worked together on big projects," Chan says. "We're constantly talking about ways to map software requirements with testing, because the future of managing requirements is all about mapping. So last week I called him and said, 'Hey, I've found the solution. It's Polarion.'"

## Siemens PLM Software

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[www.siemens.com/plm](http://www.siemens.com/plm)

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