

# Sony Corporation, Semiconductor Division

Using Adobe® Acrobat® software, business group accelerates review and approval of engineering design changes and reduced approval time by 86%

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[www.sony.co.jp](http://www.sony.co.jp)

### Industry

Manufacturing

### Challenges

- Accelerate design review processes
- Coordinate design approval across busy project managers

### Solution

- Product Development Collaboration
  - Engineering Change Orders
- The Sony Atsugi Technology Center is using Adobe Acrobat Pro software to convert engineering documents to PDF for streamlined review and approval.

### Results

- Reduced design review and approval cycles by 86%
- Improved manager access to design documents
- Leveraged innovative 'virtual seal' system as part of PDF process to accelerate Process Modification Record process
- Reduced costs by distributing engineering documents that can be reviewed with free Adobe Reader® software

### Systems At A Glance

- Adobe Acrobat
- Adobe Reader

## Streamlined engineering change processes

The Sony Corporation's semiconductor laser, a key component for many digital equipment devices worldwide, enjoys the top spot in the market. To keep up with diverse consumer needs and each product's short lifecycle, the company wanted to reduce the development and production lead time for the semiconductor laser.

In 2007, the company promoted efficiency of the approval process for engineering change orders using Adobe Acrobat software and delivering design documents in Adobe Portable Document Format (PDF). The result: design review and approval time was reduced to 1/7 of the time previously required using the paper-based process.

Although Sony's fields of business are diverse, the semiconductor laser stands out as one of its most important strategic devices. A recent success for the company is the Blu-ray Disc. Currently, Blu-ray Disc drives are installed in gaming consoles, video players and recorders, PCs, and other devices. The sales of the Sony PlayStation 3 loaded with Blu-ray Disc players exceed 15 million units. The key technology is the semiconductor laser, with the total number of Sony semiconductor laser shipments rising to more than two billion.

Production for the Sony semiconductor laser is delegated to Sony's subsidiary, the Sony-Shiraishi Semiconductor Corporation located in Japan's Miyagi prefecture. Sony-Shiraishi Semiconductor mass produces, develops, and designs the semiconductor laser, keeping consistency throughout the process; including customer service.

This is an important process for Sony. Supervision responsibility over Sony-Shiraishi is through the Micro-Device Division at the Atsugi Technology Center located in Atsugi, Kanagawa Prefecture. The Atsugi Technology Center is crucial to assuring the strength of the program and to producing the leading-edge semiconductor technology at the core of Sony's strategic growth plans.

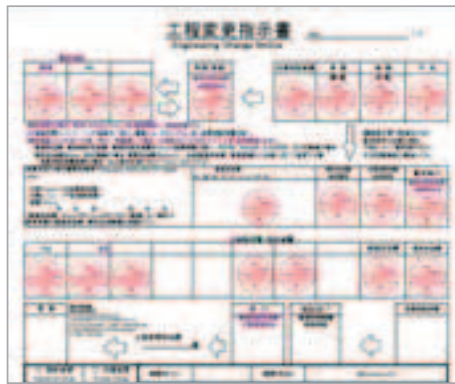
## Improving processes with Adobe Acrobat

Ms. Sachiko Yanagi, the coordinator of the approval process for the Process Modification Record, was interested in enhancing this process because it would shorten lead times for development. To support the efforts, the organization deployed Adobe Acrobat to convert project documents to platform- and application-independent Adobe PDF files.

"If you talk about PDF, then it makes sense to contact Adobe," says Ms. Yanagi. "I found that Adobe Acrobat could make it even simpler to gain the approvals needed electronically. After trying the software on a smaller scale for a few months, we migrated our entire approval process to PDF. The biggest factor in adopting Adobe Acrobat was that each person needed only the free Adobe Reader to approve a particular process."

However, there were hurdles to overcome, starting with the virtual seal settings, which used to indicate only the names of the project managers and one line of information by default.

To streamline the approval process for the Process Modification Record at Sony's Atsugi Technology Center, the organization deployed Adobe Acrobat to convert project documents to platform- and application-independent Adobe PDF files.



*“The approval lead time became very quick. It used to take on average one week, but with Acrobat I can receive any approval from any of the seven project managers on any given day.”*

Ms. Sachiko Yanagi,  
Approval systems coordinator,  
Sony Corporation Atsugi  
Technology Center

Therefore, it was not possible to indicate a virtual version of the actual seal from each project manager. Ms. Yanagi was able to customize the virtual seal using Adobe Acrobat.

“I customized it so that two lines are indicated, one for the employee number and section, and another for the employee's name,” she explains. “Although I didn't know how to do it at first, I eventually made it possible for the virtual seal to reflect changes for the approval person immediately, so that when a personnel change occurs, it can be done simply in an Excel macro.”

#### **Accelerated review and approval**

“The approval job is easier now. You simply verify by downloading the approval PDF, which is attached to an e-mail, and the process modification record PDF from the server. If reviewers have Adobe Reader, they can apply their virtual seal by clicking on a button within the PDF. They can also enter comments. The hurdles to getting approval were minimal and the transition went very smoothly. Now, we can check an e-mail, even on a business trip—we can no longer tell Ms. Yanagi to wait,” explains Senior Manager of Design Promotion Section Mr. Takehiro Taniguchi laughing.

Ms. Yanagi continues, “The approval lead time became very quick. It used to take on average one week, but with Acrobat I can receive any approval from any of the seven project managers on any given day. When we used to circulate the paper version, I would have to copy two sets, including a back-up, verify the schedule and location for each approval person, and then send it inside the company mailing system. Since the previous method was time consuming and tedious, the time and work involved in the process for approval was reduced substantially. Going paperless definitely has its benefits! In addition, because the previous records are left on the server, when necessary, managers can refer back to them at any time, which is very convenient.”

Adds Mr. Taniguchi, “The simple virtual approval system made the approval process so easy, that it didn't add any real cost to migrating from the previous system. The lead times shortened with the improvement of the approval process flow.”

#### **Looking at enterprise rollout of Acrobat**

The benefits of the virtual approval system have been noticed by other departments as well, with many of them starting to use it on a trial basis.

“I customized it via my own trial and error, and made it useful for everyone. I feel very delighted that I could improve our business processes. They have also started to use the virtual approval system at some other sections, where they previously manually applied the seals on the appropriate paper,” concludes Ms. Yanagi.

Concludes Mr. Taniguchi, “Since it was first rolled out within our closed business process for the Laser Design Section's work, we did not need approval from Sony Corporate headquarters to implement this new flow. Adobe Acrobat also provides the scalability we need to be able to accommodate larger departments that could include dozens of more people than we have.”



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