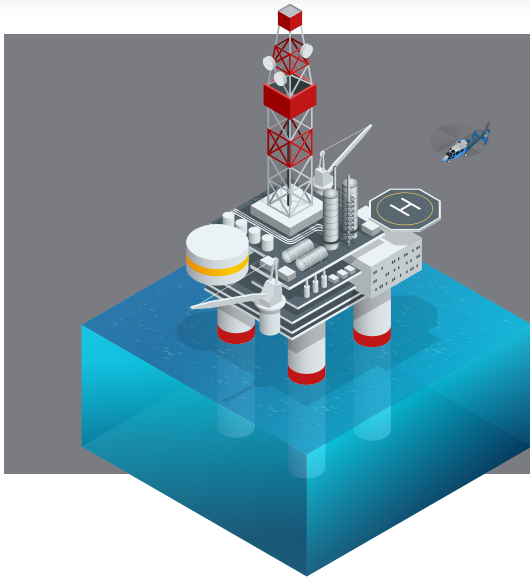


# Going Digital in Non-Destructive Testing

See the dramatic workflow and ROI benefits possible with DR imaging.





There are many compelling reasons to step up from film-based to Computed Radiography-based (CR) NDT testing to the power of Digital Detector Array Radiography (DR). However, we also hear reasons why people choose not to upgrade.



In this article, we'll take a close look at both sides of the argument. And, because Carestream NDT provides systems for all three modalities – film, CR and DR – we're able to offer you an unbiased perspective, which we hope will illuminate the best pathway for you as you move into the future of NDT.



## FOR NDT INSPECTION IN

- AEROSPACE
- OIL & GAS
- CASTINGS
- AUTOMOTIVE
- MANUFACTURING
- INFRASTRUCTURE
- MILITARY

## A Look at Film

First, let's consider film. This modality uses a mature technology, is time-proven, and can provide excellent results — along with a physical radiograph as a record of the inspection. No one argues that film doesn't get the job done, and is well supported by volumes of trade literature and readily available training and certification programs.



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*"No one argues that film doesn't get the job done."*

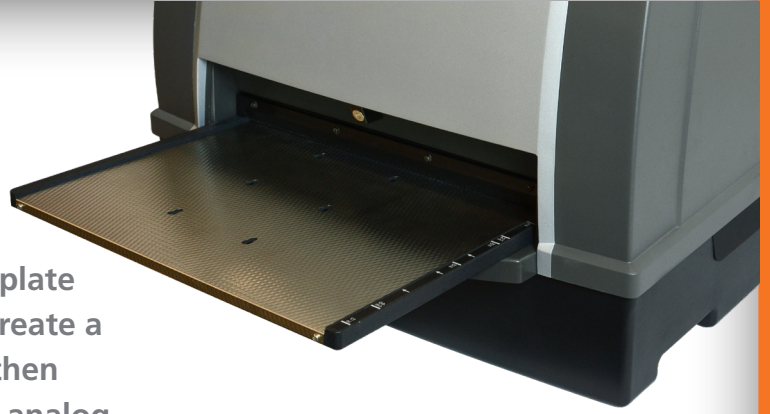
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Still, there are drawbacks. Film-based testing requires the ongoing purchase of costly consumables — the film itself, and processing chemicals. The processing of film is a time-consuming, expensive, multi-stage process. It also requires dedicating floorspace to a darkroom and maintaining it.

## Considering CR

CR offers many advantages over film. This technology replaces film with a cassette containing a phosphor imaging plate that's exposed the same way film is, to create a latent image on the screen. The plate is then inserted into a scanner that captures the analog image data, converts it to digital, and displays the new, electronic image on your screen. The cassette's imaging plate can be used over and over – reducing consumable costs.



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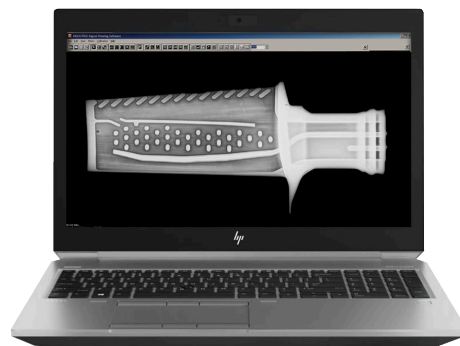
The CR process delivers good image quality and a faster turnaround time for image review and reporting.

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## The Dynamics of DR

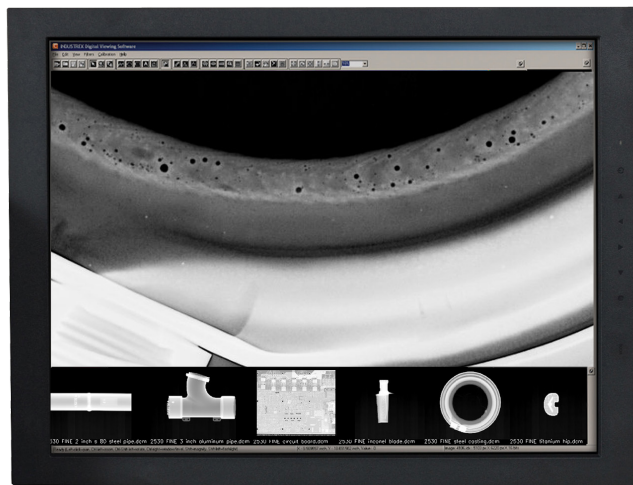
The advantages of DR are evident from the beginning to the end of the testing process. It begins with the operator acquiring an image – radiation passes through the sample and creates a digital image directly on the Carestream HPX-DR Detector.

That image is processed in just seconds — eliminating the wait-time of film processing and the intermediate step of scanning a CR imaging plate.



Best of all is the quality of DR; the acquired image reveals the internal structure of a sample with outstanding clarity — supporting fast and accurate identification of any flaws present.

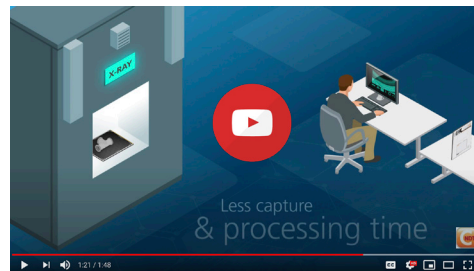
In short, digital radiography would seem to be the clear modality of choice. Moving to DR means fewer steps in the process, less capture and processing time, lower overhead and lower cost on a per-image basis. It also enhances safety, with less potential radiation exposure for radiographers.



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*“Workflow can improve substantially with DR imaging.”*

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## So... What's the Problem?

With all these known benefits, why are some NDT providers still unconvinced and hesitant to upgrade to DR?

Well, for some operations, it's the issue of the perceived cost of stepping up to digital. And yes, the initial investment is higher. But when we take the longer view, the picture changes: **when you combine the lower cost of ownership over time with dramatically improved workflow and productivity, the superior return on investment of DR can more than offset its initial price. Making it a smart financial decision.**

At other facilities, there may be radiographers who are simply more comfortable staying with analog imaging rather than moving to computer-based digital imaging. In reality, today's digital systems feature user friendly interfaces, and most of the technical aspects are taken care of by sophisticated and powerful software. In fact, learning and operating a digital system is no more difficult than what it takes for a radiographer to learn film.



TIME IS  
MONEY

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## The Bottom Line

Digital radiography no longer has to be proven. The early barriers that kept many from successfully adopting it no longer exist. The proliferation of standards, advancements in digital imaging and software, advancements in DR detectors and systems have completely opened the doors for everyone in industrial radiographic testing to consider DR. And those who already have adopted the digital workflow are seeing efficiencies and savings.

[carestream.com/ndt](http://carestream.com/ndt)

**CARESTREAM NDT AND YOU.  
WE'RE BETTER TOGETHER.**

