

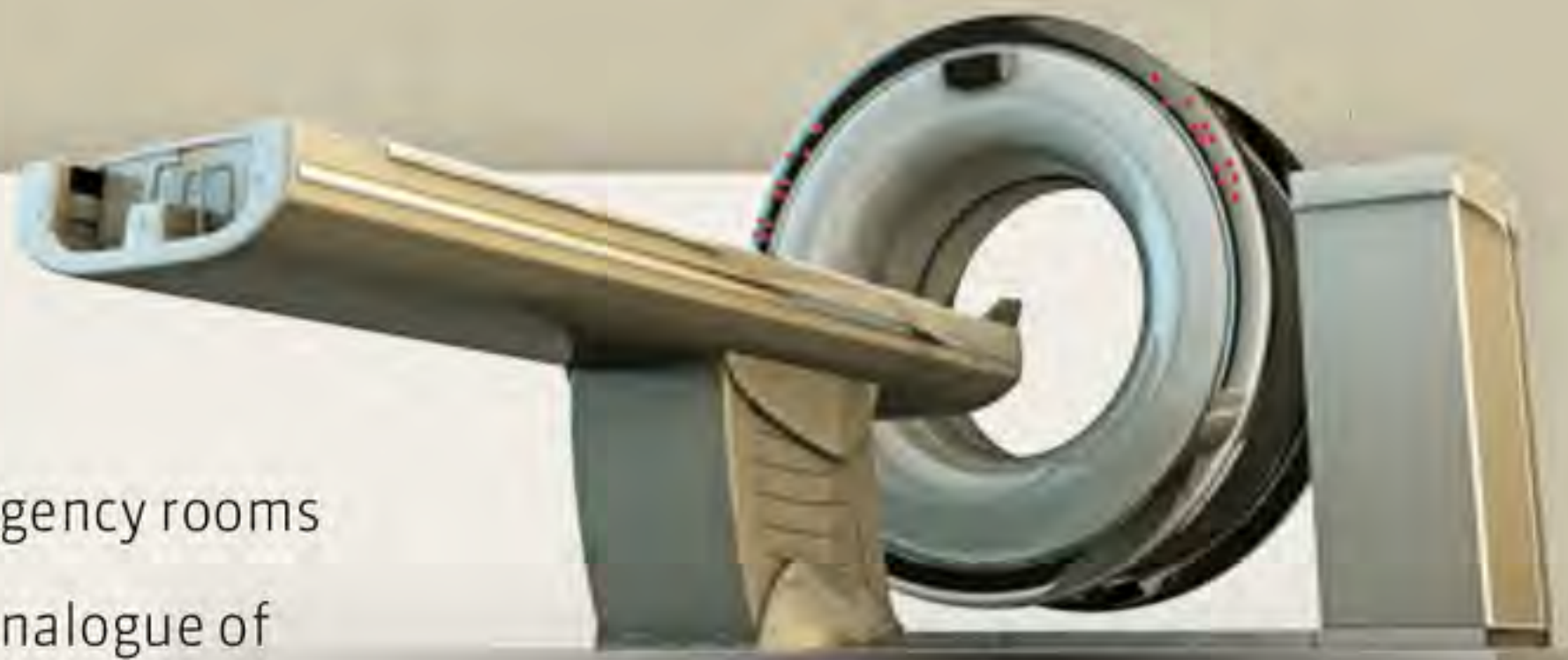


# COUNTING THE COST

TCO, SERVICE CONTRACTS AND  
DEVICE MANAGEMENT

BY MATT SKOUFALOS





If urgent care centers and freestanding emergency rooms are the health care provider's analogue of the national fast-food complex, then wringing every last drop of financial efficiency from the systems that integrate them is the supply-side portion of that equation, argues Jakub Mochon, CT Senior Director for Siemens Healthcare.

"We live in this instant society," Mochon said; "we kind of expect everything to be drive-through, right now."

Fulfilling the needs of that on-demand culture often comes at a significant price, however; as providers seek alternatives to expensive equipment purchases, data wonks are turning to more complex analytics to either justify the cost of new devices or to find ways to cut costs maintaining the equipment they already own.

For original equipment manufacturers (OEMs) like Siemens, that means expanding focus to pick up entry-level as much as upper-echelon customers, and trotting out sales pitches anchored less by competitive upfront costs and more on lifespan metrics like total cost of ownership (TCO), an accounting metric that encourages a holistic approach to valuing the overall investment associated with a purchase, including labor, maintenance, resiliency, staffing and other environmental factors.

In the current fiscal year, the business Siemens has done in the entry-level market has grown 400 percent in a segment that Mochon said is "less academic and R&D-driven and wants to be part of a lower-cost, efficiency-oriented

technology," and a large part of its marketing strategy in the space hinges on TCO arguments.

"You're no longer dealing with somebody who wants to sell only to the top hospitals in the U.S.," he said. "It's all about the growth of our organization and participation in every segment of the market."

To that end, Mochon said, Siemens is pushing a value-based approach that claims its newest entry-level systems offer a 25-percent cost savings based on "intelligent" technological upgrades contained within the guts of its SOMATOM entry-level CT scanners. These can provide a 10 percent improvement in overhead costs, and a comprehensive 35 percent lower TCO within 15 years of ownership, he said. To do it, Siemens has mined its own core technologies, imaging algorithms, and software advances in order to create a more efficient, robust, and cost-effective entry-level product.

"Most pre-owned scanners were introduced many years ago and were designed to be top-of-the-line – for example, to open the new era of cardiac imaging – and, because of that, will have some technologies that will make them more expensive to run and more expensive

to service," Mochon said. "Instead of holding onto this older scanner that maybe is running OK but carries a higher service cost, [customers are] now looking at this and saying, 'How much is the service contract?' An older technology might require more service efforts that cost more than maybe a new lease payment and a new service contract combined on our new technology."

Mochon claims that the SOMATOM line leverages its value from a lower cost of operation. Iterative reconstruction technologies reduce power requirements for new scanners versus prior-generation technologies; the automation inherent in the newer devices may also mean that a facility could require fewer technologists, or free them up to spend less time with the machine and more with the patient, he said. The SOMATOM also may occupy less space in the facility than prior-generation models did, and exhibits a modular design that lets customers expand on the same platform.

"If you don't need a 64-slice scanner today," Mochon said; "you can go with a 16-slice scanner that is fully upgradable to 64 and 128 slices. We're focusing on making these scanners a lot more modular and upgradeable. An upgrade may require a simple gantry refresh, software reload, and you're ready to go. We can do it over the weekend."

#### **BUILDING BLOCKS**

Modular design is the watchword at the Rochester, New York-based Carestream Health, where Gil Shetrit, Product Line Manager for X-Ray





Jakub Mochon

Solutions, said the company continues to invest in a lower-cost segment of the imaging market, computed radiography (CR). CR is still “the gateway to digital” for lower-tech customers worldwide, Shetrit said, but just because it’s less expensive than CT technologies doesn’t mean that TCO metrics don’t factor into its business.

“The basic premise of this whole thing is quality,” he said. “You have to make sure the system is built to last. We understand the cost of service is becoming more substantial. If the system keeps going down and needs more service, that’s one of the things we need to look at.”

CR might be among the most baseline of all entry-level imaging technologies from a global perspective, if you consider that the bulk of growth in the market is in countries like China and India. In developing countries, much of the population can be distributed in areas so remote that technicians travel hours via multiple modes of transit to reach their customers. When equipment fails under those conditions, Shetrit said, getting to the site “is not so easy,” hence the manufacturer’s sensitivity to quality.

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“There’s a built-in, minimum amount of money you pay a service engineer, despite the travel time that may be involved,” he said.

Carestream’s answer to such circumstances is the Vita Flex CR, a customer-installed, self-servicing CR device that allows users to operate out of the box within 90 minutes, just like installing a laptop or other plug-and-play digital device, Shetrit said. The Vita Flex is self-testing, and replacement parts are shipped as field-replaceable units, or FRUs, that can be drop-shipped within 24-48 hours in most parts of the world.

“The units are built out of building blocks,” Shetrit said. “When something breaks down, the system tells you which FRU to replace, and a new one is shipped out. The customer replaces that FRU and puts the old one back in the box and sends it back to the company. You don’t even have to know what’s in the specific FRU; you just replace it. This system only has three main FRUs. We just tell them which one to replace.”

By limiting downtime, Shetrit believes he can help his customers reduce their service costs, using the savings and sales volumes to pay for that fast global shipping turnaround. The Vita Flex also comes with a five-year warranty.

“I don’t need much to support the thousands of units being shipped

each year,” he said. “I just need the logistics to support the FRUs, and I need a call center to be able to connect to the system and diagnose it remotely.”

Shetrit describes CR as “a transitional technology,” the market for which has shifted into developing countries, where demand for CR technology will be driven by price competition, forcing eventual consolidation. In the United States and Europe, demand will continue to be oriented around higher-end systems. Manufacturers will adjust by matching the products they create to the markets that are most receptive to them, but Shetrit said he believes “there’s an unaddressed market out there, where a lot of people still need some help to get into the digital end of the business,” whether in terms of purchase price or TCO.

## DATA-DRIVEN DOLLARS

Sheila M. Sferrella, Senior Vice-President of Regents Health Resources in Nashville, Tennessee, said that the biggest determinant in any TCO analysis involves knowing what you can control as a radiology administrator and what you can’t – and the former list is a short one. It includes exactly three things: service costs, equipment costs and capacity.

“I’m a data queen,” Sferrella said. “Data doesn’t tell you what the problem is, but data shows you trends



and where there might be a problem. Service costs and contracts can be captured in different account numbers. Number one, you've got to know your existing costs: contract costs, hours, what types of failures there are."

When she was the administrator for the diagnostic imaging service department at the Lehigh Valley Health Network (LVHN) in Allentown, Pennsylvania, Sferrella said she saved on vendor service contracts by offloading repairs and preventive maintenance to her in-house clinical engineering department, which also allowed her to collect local data on the failure rates of her equipment (by modality, by site, and by device), the number of hours of labor her biomedics provided, and the costs of parts needed for repairs. Often, Sferrella said, her in-house team was resourceful, skilled, and flexible enough that it kept the hospital from signing long-term OEM service contracts. LVHN ended up not renewing one of its larger professional contracts, a five-year agreement with an ultrasound vendor, because the clinical engineering team found a probe vendor of comparable quality at half the cost of the OEM price tag and shopped for replacement parts on eBay.

"When I was a radiology administrator, productivity was very important to the organization," Sferrella said. "I was looking for costs; I was not taking out staffing when there were other things to take cost out of. We started at \$3 million and we saved \$1 million the first year that we went in-house [with our service calls]."

Signing an OEM service contract is easy to do because it offloads the responsibility to a third party, but Sferrella discovered "significant savings" in a structured policy with an insurance broker. Instead of paying



Gil Shetrit

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a flat fee to a service provider, the insurance agreement obligated her department to pay a premium, plus establish a capped pool of funds for repair costs. Sferrella's agreement also allowed her organization to retain any of the unexpended dollars in the service pool. For a sense of comparison, she shaved an OEM service contract costing \$827,000 down to \$654,000 for an insurance policy: a \$154,000 premium cost with a \$520,000 pool for repairs. Whatever of the \$520,000 was unused during the year, the organization retained; if the cost of repairs exceeded the pooled funds, the insurer paid whatever the overage was. It also provided her with a list of local service vendors who would provide competitive quotes to repair the equipment.

"In the first year of doing that contract, we saved 19 percent, and that didn't include the aggregate savings of what we retained," Sferrella said.

An average departmental cost-of-service ratio with full-service OEM contracts is 10 to 14 percent, she said; by shifting repairs to the in-house team and supporting it with the insurance policy, LVHN cut its average cost-of-service ratio to 4 to 6 percent in the first year after implementation.

"There are all sorts of ways to develop a program," Sferrella said. "You don't have to have your own in-house folks. A third-party service agreement, at least you'll save 2-3 percent on your total cost; if you go to an insurer, you save a lot of money."

"People who have OEM service contracts use less than 50 percent of what is included in those contracts,"





Sheila M. Sferrella

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Although manufacturers put forth the notion that later-generation equipment necessarily offers significant, cost-saving improvements over what’s already on the market in terms of reduced outages, Sferrella encourages buyers to do their homework – and notes that the newest equipment doesn’t yet have a track record of failure rates. She called manufacturer uptime guarantees “a useless statistic” based on a 24-hour-a-day cycle that doesn’t apply to centers that only provide imaging services in eight-, 10-, or even 12-hour blocks.

Instead, Sferrella believes in two key pieces of data: mean time between failures and cost-of-ser-

vice ratio. Arriving at them requires some digging (“There are national benchmarks; the vendors don’t want to share them with you,” she said), but provides a far clearer picture of what to expect from a piece of equipment. Likewise, equipment TCO calculations that emphasize throughput metrics are less useful if they aren’t based on a patient volume that corresponds with the customers in a given area because, “if there isn’t anybody lining up, it doesn’t matter how fast you can put them through there,” Sferrella said.

“Most of it is the time it takes people to get those patients in and out of there,” she said. “CT is about as fast as it’s going to be. The slowest thing is getting the patient on and off the table. The limiting thing is not throwing the patient on there and getting them off. Once you get close to 80 percent capacity, 75 percent, you’ve got to be planning for either additional hours, or you’ve got to buy another machine – and

that’s if you have excess volume to support it.”

As for the notion that entry-level OEM devices will lower TCO by limiting power expenditures, Sferrella also encourages buyers to exercise caution.

“If you’re in an imaging center, I may see the difference in the electric bill,” she said; “you’re not going to see that in a hospital. Most large systems have all sorts of ways to save on utilities costs. One CT scanner, I don’t think that’s going to get a facilities person jumping rope.”

Manufacturers “make great equipment, but imaging administrators are now evaluating options other than full-service OEM contracts,” Sferrella said.

“The vendors have done a really good job saying, ‘This is what you need,’ and it’s easier than trying to look for something else. But here are the options, and you can save a lot of money,” she adds. **MD**