# Improved scanner efficiency with Siemens Healthineers Deep Resolve



siemens-healthineers.us/deep-resolve











# **Customer need:**

To drive increased throughput while maintaining high image quality

**Siemens Healthineers Solution: Deep Resolve:** Acquiring sharper images, faster

Targeted denoising and AI based deep learning methods power Deep Resolve technologies for sharper images acquired with faster scans. The convolutional neural network at the core of Deep Resolve Sharp was trained by comparing a vast amount of high and low resolution data. Within the reconstruction pipeline, Deep Resolve Sharp generates a high-resolution image from low-resolution input. By including raw data in the reconstruction process, in combination with Deep Resolve Gain targeted denoising, clinically robust results are achieved, with much shorter acquisition times.

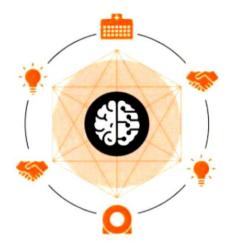
MR Exam (1.5T Altea)	Pre Deep Resolve (minute)	Post Deep Resolve (minute)	Exam time savings	% exam time reduction
Brain	12:42	6:27	6:15	49%
T1 Sag	2:17	1:25	:52	38%
DWI Ax	1:14	0:33	:41	55%
T2 Ax	2:10	1:24	:46	35%
T2 IR Ax	4:14	1:30	2:44	65%
T1 Ax	2:47	1:35	1:12	43%
Knee	19:03	8:33	10:30	55%
T2 FS Ax	3:32	1:46	1:46	50%
PD FS Cor	2:41	1:06	1:35	59%
T2 FS Cor	2:41	1:46	:55	34%
PD FS Sag	3:32	1:06	2:26	69%
T1 Sag	3:23	1:03	2:20	69%
T1 FS Sag	3:14	1:46	1:28	45%
Lumbar	18:28	10:58	7:30	41%
T2 Sag	3:28	1:39	1:49	52%
T1 Sag	2:34	0:49	1:45	68%
T2 IR Sag	4:07	1:54	2:13	54%
T2 Ax	4:19	3:20	0:59	23%
T1 Ax	4:00	3:16	0:44	18%

Table 1 Data was acquired from the MAGNETOM Altea 1.5T System. The standard protocol was used as the "Pre Deep Resolve" exam and the "Post Deep Resolve" data incorporated the combination of Deep Resolve Gain & Sharp at similar protocol parameters. The decreased exam times as well as exam time percentage of reduction are included.



	1.5T Altea System	1.5T Altea with Deep Resolve	Estimated net increase with Deep Resolve Upgrade <sup>1</sup>
Average patients/day (7a - 7p)	12	17	5 more patients per day
Example reimbursement/ patient2	\$450	\$450	\$450
Revenue/day (7a - 7p)	\$5,400	\$7,650	\$2,250
Revenue/month (24 days)	\$129,600	\$183,600	\$54,000
Revenue/year (288 days)	\$1,555,200	\$2,203,200	\$648,000

**Table 2** Outlines potential increase in revenue with Siemens Deep Resolve if the decreased exam time allowed a customer to add 5 more patients per day.



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### References:

- 1. Estimated increase in revenue with Siemens Deep Resolve upgrade at XA31A Altea 1.5T
- 2. Average reimbursement based on combination of Medicare & Physician Fee Schedule

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