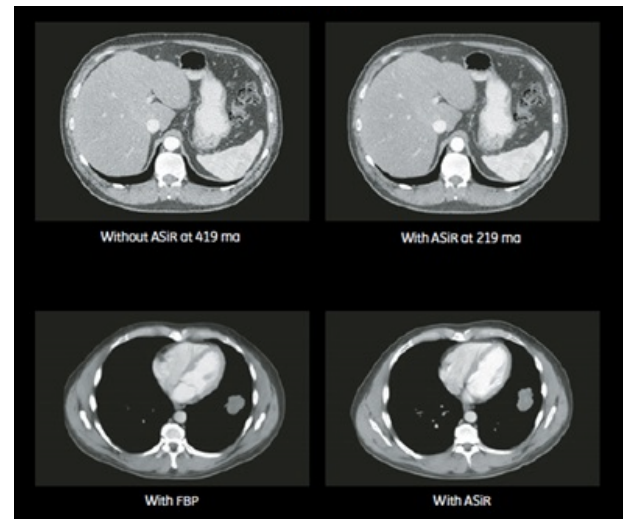

IB Upgrades Analytics Live!

Upgrade your patient care

Naomi Kaduwela - June 5, 2016

Continuously challenging ourselves to deliver higher quality products, GE Healthcare is building upgrades which make our products safer, faster, more reliable and efficient.

The ASiR (Adaptive Statistical Iterative Reconstruction) Upgrade can reduce the dose of radiation exposure in patients that undergo CT scans by enabling improvement in low-contrast detectability. But what good is this upgrade if you can't identify the customers that need it? This is the problem the business came to our analytics team with, and this is an inside look at the process and journey of a Analytics Solution Designer.



**Scans with and without ASiR Upgrade*

Collect.

We engaged in a two day “Insights Workout”. This involved deep dive business overviews of the current state and processes, gaps and pain points, key process indicators (KPIs) and drivers of success, as well as their vision. Our goal was to determine where and how analytics could provide new insights to enable data driven decisions. It came down to IB Visibility, or the lack thereof, requiring a tedious manual process to determine the hardware and software configurations within each of our assets: critical information to determine if an asset is eligible for upgrade or already upgraded. The goal was clear and provided a perfect opportunity to leverage data as an asset: identify the Target IB list for the Sales and Marketing teams to go after.

Connect.

Time to connect our ideas to the data. We brought our Siebel Americas CRM enterprise transactional source system – for asset, customer, and location data - into the Data Lake. Our Data Engineering team

combined this with the machine data streaming from our CT and MR machines, to get the latest hardware and software configuration coming directly from our assets.

We worked with the Product Management and Engineering teams in the business to build the logic to automatically determine which systems were able to upgrade to the ASiR Upgrade. We began iterative cycles of executing, testing, and revising rules that could be standardized and run against our data. One month later we demoed an minimum viable product (MVP) to GE Healthcare's leadership team: Joe Shrawder, Karim Karti, and James Richards, who eagerly encouraged us onward. We loaded \$4.4MM of opportunity in Salesforce and sold \$100K of ASiR Upgrade from the initial insights discovered in development.

Comprehend.

You live, you learn, you upgrade - it was time to scale and harden our solution. We built an automated rule engine, executing business logic against our asset data to provide visibility to our customers who had assets that were eligible for critical upgrades like ASiR. We grew the solution - building a backend Predix application for Product Managers to build rules to identify any upgrade on our IB assets. We enhanced our machine data and conveniently displayed customer, asset, and location details with our Target IB lists to aid the Sales and Marketing teams. Product Management and Engineering teams came together to develop the business rules for 11 more CT Upgrades and 7 MR Upgrades. We expanded visibility to Europe and EAGM regions by pulling in their data as well.

Disrupt.

Saturday, June 4th, 2016 11:57 AM our Go Live Communication Email went out - IB Upgrades was Live! Eighteen Upgrades loaded. \$164MM of Upgrade Opportunity identified.

Enjoying traveling an unpaved path, there were many firsts: we combined CRM & Machine Data, leveraged the Corporate Data Lake Platform as a Service, partnered with the GE Digital team, learned and leveraged the Industrial Data Science Methodology, operated in an Agile framework, developed our Solution Design Framework, and went live as the first Digital Thread Analytics outcome.

Stay tuned for more updates along our Upgrades journey as there will be a quarterly release as we continue to scale and grow the features of this solution! Upcoming releases include global deployments to Asia and Latin America, integrations with Salesforce, and scaling the rule engine to all other GEHC modalities. With a strong user experience focus, we are also conducting usability tests to continually feed our backlog of requirements with new enhancements.

Follow Upgrades and other outcomes that we are going after with Digital Thread Analytics!