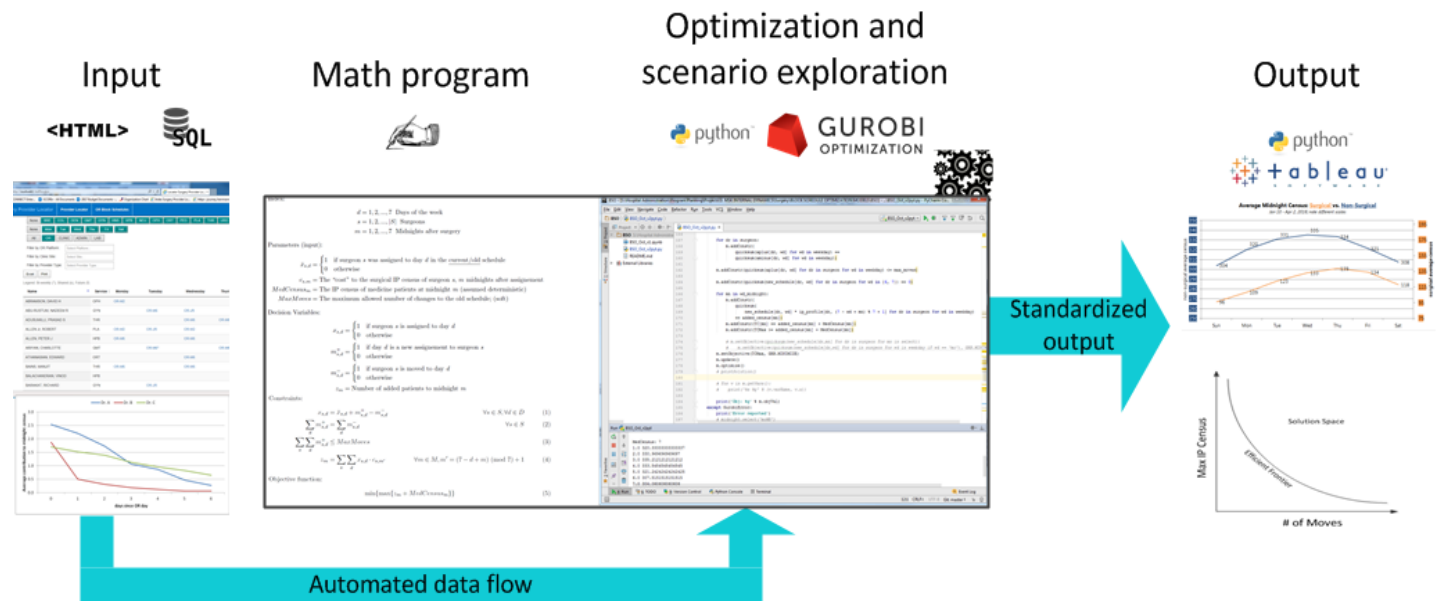


The **Operating Suite** at Memorial Sloan Kettering has 40 operating rooms with 9 surgical robots running 6 days a week supporting over 100 active surgeons. Institution-wide strategy calls for increased growth of surgical services, while continuing to provide excellent quality care in a fiscally responsible manner. This requires balancing several major resources including operating rooms, surgeons, nursing staff, surgical robots, and inpatient beds.

One way that Operating Suite resources are balanced is via the block schedule, which allocates specific surgeons or services to operating rooms based on the day of the week. In order to prevent high inpatient census days and avoid over- and under-utilization of rooms and robots, **Strategy Analytics** and **Surgery** created an optimization model called the Block Scheduling Optimization (BSO) model. The BSO model is used in decision support for all block scheduling decisions while considering the implications on the Operating Suite, the staff and the rest of the system.

The BSO includes a SQL Server **data pipeline**, Python data processing scripts, Gurobi/Python multi-objective mixed-integer programming **optimization model**, and a **front-end visualization tool** for interactive review of system data and experiments.



The BSO model enables surgical leadership to leverage major resources optimally, increasing access to leading surgeons, reducing delays, and supporting our mission to provide patients with the best care available as we work to discover more-effective strategies to prevent, control, and ultimately cure cancer in the future.

The Strategy Analytics team at Memorial Sloan Kettering Cancer Center empowers hospital leadership to make better decisions. Learn more about our work and find open positions at:

[careers.mskcc.org/strategy](https://careers.mskcc.org/strategy)