Healthcare Technologies
Medical Equipment Planning
Communication Systems Design
Data Centers

transforming healthcare through technology
our qualifications

1. executive summary
2. comprehensive services
3. project experience
executive summary
EXECUTIVE SUMMARY

Why Equipment & Technology Planning?
Today's healthcare facility design and construction efforts demand more insight and technological integration planning than ever before. Medical devices no longer operate independently within a healthcare environment. They provide critical patient care information to clinical and physician staff and are integrated within the facility and IT systems. How you budget, plan and design your facility to accommodate advanced technology solutions is vital.

Medical Equipment and Technology can account for 25-50% of your total project budget...often...times the second most expensive line item besides the cost of construction itself. New expertise is required to maneuver through the alternatives and best solutions for implementing technology correctly—expertise beyond traditional equipment planning knowledge. RTKL Healthcare Technologies has this expertise.

Advanced Technology...Advanced Expertise
Our firm is the leading Medical Equipment and Technology Planning firm in the industry, serving domestic and international healthcare providers. We offer the most comprehensive services and resources to address the demands of your design and construction projects.

Our ability to provide Medical Equipment Planning, Communication Systems Design and Data Center Design services allows you to have single-point responsibility for your critical medical technology implementations.

Quality & Service
Our firm is consistently recognized for our excellence in quality deliverables, innovative solutions and customer service. We stand behind these core values. Our staff understands the challenges you face and the complexities of healthcare design and construction. We provide you insight, alternatives and solutions gained from planning and implementing hundreds of state-of-the-art healthcare projects and technologies throughout the industry.

Our goal is to provide you with the best medical technology solutions required to achieve your clinical, operational and financial goals.
People Make the Difference
In large measure, it’s our people that set us apart. As a member of your team, we bring you the healthcare knowledge of our staff combined with our national exposure to medical technology, trends and strategies to help you implement the best solutions for your project.

Our success with a broad range of project types means we understand the significance of each effort and the dedication we must bring forth to implement your plan.

Technology Specialists
We employ some of the industry’s best capital equipment planners, technology engineers, and leadership...many with over 20 years experience and healthcare backgrounds. Expertise comes from years of involvement in the hospital environment and knowledge of the capital equipment and technology industry.

To address the complexities of technology-integrated design issues, we employ highly specialized technology staff—certified Professional Engineers, RCDD’s, security engineers, and wireless specialists.

Depth of Resources
An important consideration we bring to your projects is the depth and technical experience of our team. With over 75 full-time equipment and technology staff, we have the resources to provide you the support structure required during all phases of your project—Design, Procurement, Construction, Installation. Certain stages of your project will require more staff and support than others, as well as different expertise.

This is the reason you hire us in the first place - to provide you with our additional resources, knowledge and technical consulting based on our experience gained from multiple projects throughout the industry. We apply our experience to guide you through the best alternatives and solutions.

Few firms in the industry bring you the level of experience and technical resources we offer.

Our resources allow us to provide you better technical expertise, project backup, and cross-over support for our Project Managers...minimizing risk for your project.
ON-LINE PROJECT DATABASE…
INFORMATION @ YOUR FINGERTIPS

Database Technology
A primary planning tool we utilize to produce and manage the information for your project is the Attainia™ on-line planning application. Attainia is the industry-leading on-line planning and procurement tool and is a 100% internet-based application. We provide you free, on-line access to your project data as part of our services…putting live information at your fingertips.

On-line Access, Live Data!
Project information is accessed via any computer with internet connection. Once you have logged in to your project, you are directly on-line with your project data – viewing and creating reports from live information.

The key differentiator to our approach is that you are on-line with real-time, up-to-date information, specifications and reporting capabilities, not an FTP site or static reporting system.

Integrated Modules
The Attainia system is divided into modules that allowing us to organize your information in accordance with the major steps involved with a capital project:

- Budget Development
- Architectural Space Plan Tracking
- Equipment, Furniture, & IT Specifications
- Existing Asset & Future Capital Integration
- Requisition & Purchase Order Production
- Purchasing Delivery & Contractor Coordination

Flexible Reporting
The reporting module is a point-and-click interface that provides powerful reporting capabilities for flexible and meaningful data to support important phases of the project. Extensive selection criteria allows you to extract the data you need and sort it in a variety of ways. Reports can be printed to your local printer and are generated in Adobe Acrobat™ PDF files for easier distribution to other staff or project team members.

The same data can be exported to Microsoft Excel format for more extensive analysis or integration into other applications.
comprehensive services
HEALTHCARE TECHNOLOGIES

Comprehensive Services
How you budget, plan and design your facility to employ technology has long-term consequences. Operational throughput, patient outcomes and clinical staff efficiencies are influenced by technology decisions.

Our Healthcare Technologies services address the key integration areas surrounding medical technologies. We offer single-point responsibility for...

- Medical Equipment Planning
- Communication Systems Design
- Data Centers

These represent the most comprehensive set of technology-focused services in the industry…often times provided by three different consulting firms. Our goal is to provide you better coordination of these important services.
MEDICAL EQUIPMENT PLANNING

Medical Equipment Planning
At the core of our services are the turnkey design and implementation solutions for Medical Equipment. We provide the comprehensive tasks required for a project—from preliminary budget development and design through occupancy. You can select the tasks you require to best utilize our expertise and supplement your own resources.

- Existing Equipment & Technology Assessment
- Budget Development
- Architectural & Engineering Specifications
- CAD & REVIT Equipment Placement Drawings
- Procurement & Expediting
- Construction Administration
- Installation & Equipment Relocation
- Transition & Occupancy Management

Clinical Systems Planning
Different from pure IT design services, the following services address the coordination of the clinical systems and how they integrate with your enterprise IT system and medical equipment devices. Our expertise in this area is unique in the industry and not offered by traditional medical equipment planning firms.

- Integrated OR Systems
- Patient Monitoring
- Nurse Call / Workflow System Planning
- Wireless Clinical Communications
- Point-of-Care Systems

Strategic Technology Consulting
The rapid evolution of medical technology, combined with escalating costs, requires a new approach to strategic planning efforts. Our Capital Planning Services recognize your need for thoughtful rationing of capital to meet clinical, financial and operational goals.

- Multi-Year Capital Budgeting
- Procurement Strategies
**COMMUNICATIONS SYSTEMS DESIGN**

Healthcare facilities have unique demands for communication systems...requiring specialized expertise to correctly plan and coordinate. Our Communication Systems Design service provides you the essential planning and implementation services to address those specialized needs.

As one of the leading design groups in the world within this specialty, we provide the following areas of service:

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<td>• Intercom, Paging, White Noise System Design</td>
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**Physical Security Systems Design**
- Security Systems Infrastructure
- Closed Circuit TV Systems (Cameras and Monitors)
- Access Control Systems
  (Card Access Readers, Keypads)
- Door Contact Alarms
- Motion Detectors
- Alarm Control Panels
- Patient & Personnel Identification
- Personnel Attendance
- Departmental Security
  (Infant Protection, Laboratory, Pharmacy, etc)

**Wireless Clinical Communications System**
- Vital Signs/Telemetry
- Clinical Alarm Paging with Waveforms
- Ambulance Communications with Waveforms
- Outside Radio Services Coordination
  (Police, Fire, Radio)
The advent of all-digital hospitals has multiplied the demands on data centers. Now they must support digital imaging, pharmacy, clinical communications, and electronic medical records. As a result, data centers are linked to the well-being of patients and must function as mission critical facilities that operate 24/7.

That's why RTKL's Healthcare Technologies offers data center design services. Our data center specialists have 20+ years experience providing high reliability facilities. We're the only medical technology firm with this expertise in-house.

More important, RTKL looks at the big picture... including your long-term objectives and real estate options.

The result? You have a data center solution with the flexibility to meet hospital needs when they arise.

Data Center Services
- Merger & Consolidation Scenarios
- Site Selection
- Reliability Studies
- Current & Future Needs Assessment
- Space & Equipment Planning
PROJECT EXPERIENCE

Many leading healthcare providers have trusted us with their medical technology planning to help achieve better patient care.

For 20 years we have reliably provided state-of-the-art technology and equipment to the healthcare industry... acquiring extensive experience with a broad range of projects. Projects of this caliber are awarded to us because of our demonstrated reputation for quality deliverables, experienced staff and great customer service.

Our portfolio encompasses the following project types:

- New Market & Community Hospitals
- Large-scale Replacement Hospitals
- Specialty Hospitals & Surgical Centers
- Expansion & Renovation
SELECT PORTFOLIO

The following is a select list of the clients and projects we have been privileged to serve.

Replacement Hospitals & Major Expansions
Saint John’s Health Center
Santa Monica, CA
California Pacific Medical Center, Cathedral Hill
San Francisco, CA
Intermountain Medical Center
Salt Lake City, UT
Mills-Peninsula Replacement Hospital
Burlingame, CA
El Camino Replacement Hospital
Mountain View, CA
PeaceHealth, Sacred Heart Replacement Hospital
Eugene, OR
The John H. Stroger Jr. Hospital of Cook County
Chicago, IL
UC Davis, Surgery & Emergency Pavilion
Sacramento, CA
UCLA Medical Center, Santa Monica
Santa Monica, CA
Stanford University, Redwood Outpatient Center
Redwood City, CA
University Medical Center at Princeton
Princeton, NJ
St. Luke’s Episcopal Hospital, Acute Care Center
Houston, TX
University of Virginia Health Sciences Center
Charlottesville, VA
University Medical Center
Tucson, AZ
Presbyterian Hospital Plano & Dallas
Dallas & Plano, TX
St. Joseph Health, Patient Care Center
Orange, CA
Florida Hospital Waterman
Tavares, FL
TriHealth, Bethesda North & Good Samaritan
Cincinnati, OH
Ball Memorial Hospital
Muncie, IN
Arlington Memorial Hospital
Arlington, TX
St. Agnes Hospital
Baltimore, MD

Cardiovascular Specialty Hospitals
The Indiana Heart Hospital
Indianapolis, IN
The Heart Hospital at Baylor, Plano
Plano, TX
University of Kansas, Center for Advanced Heart
Kansas City, KS
The Cleveland Clinic Foundation, Heart Center
Cleveland, OH
UCSD, Cardiovascular Center/Thornton Hospital
San Diego, CA
Harris Methodist Cardiac Tower
Fort Worth, TX
Texas Heart Institute/St. Luke’s Episcopal Hospital
Houston, TX
Abbott Northwestern Heart Hospital
Minneapolis, MN
St. Luke’s Hospital, Nasiff Heart Center
Cedar Rapids, IA

Women’s & Children’s
The University of Chicago Hospitals, Comer Children’s
Chicago, IL
Children's Hospital & Health Center
San Diego, CA
Community Hospitals, Women's & Children's
Indianapolis, IN
Memorial Hospital, Women's & Children's Center
Colorado Springs, CO
Maine Medical Center, Women's & Infant Center
Portland, ME
St. Luke's Hospital, Women's & Children's Center
Cedar Rapids, IA

Community Hospitals
Centennial Medical Center
Frisco, TX
Methodist Mansfield Medical Center
Mansfield, TX
Health Alliance, University Pointe Hospital
Cincinnati, OH
Sutter Roseville Community Medical Center
Roseville, CA
St. Luke's Episcopal Hospital at The Woodlands
The Woodlands, TX
Memorial Hospital
Colorado Springs, CO
Underwood Memorial Hospital
Woodbury, NJ

Cardiac Cath Lab
The Heart Hospital at Baylor, Plano
CALIFORNIA PACIFIC MEDICAL CENTER

California Pacific Medical Center - Cathedral Hill
San Francisco, CA

• 1.3 million SF, 478 bed replacement hospital
• 2013 estimated completion
• $180 million equipment budget

Services
Medical Equipment Planning

Components

Architect
SOM/Smith Group
PEACEHEALTH

Sacred Heart Medical Center at RiverBend
Springfield, OR

• 1 million SF, 362 bed replacement hospital
• June 2008 estimated completion
• $56 million new equipment budget

Services
Medical Equipment Planning, Construction Administration, Transition & Occupancy Planning

Components
Level II Trauma, Emergency Center, Outpatient Center w/ Urgent Care & Imaging Center. Diagnostic, Interventional Cardiac Imaging, Cardiovascular Surgery & Rehabilitation. Neurodiagnostics & Neurosurgical Program w/ Cranial Intra-operative MRI & Interventional Radiology Suites. Pediatrics, LDR, & Level III Neonatal ICU. Critical Care, Dialysis, Medicine, Neurology-Neurosurgery, Orthopedics, & Surgery

Architect
Anshen+Allen
UNIVERSITY OF KANSAS HOSPITAL AUTHORITY

Center for Advanced Heart Care at the University of Kansas Hospital
Kansas City, KS

- 250,000 SF addition
- Opened December 2006
- $12 million equipment budget

Services
Existing Asset Survey & Integration, Medical Equipment Planning, Medical Equipment Procurement, Installation Management

Components
Inpatient Beds (64), Pre/Post OP (5), CVICU (16), OR Suites/Heart (4), Endovascular Suite (1), CCU (8), EP Labs (2), Cath Labs (4), Procedure Room (1), Day Beds (22)

Architect:
RTKL
COOK COUNTY

The John H. Stroger Jr.
Hospital of Cook County

Chicago, IL

• 1.1 million SF replacement hospital
• Opened December 2002
• $140 million equipment budget

Services
Medical Equipment Planning, Bidding & Procurement, Expediting & Delivery, Installation Management, Dock Management, Facility Move-in/Start-up, On-site Project Management (4 yrs.)

Components
Cardiac Rehabilitation, Diagnostic Imaging, Cancer Center, Critical Care, Medical/Surgical Patient Care, Emergency, Pharmacy, GI Lab/Endoscopy, Pediatric Patient Care, Outpatient

Architect:
Loebl Schlossman & Hackl
Methodist Mansfield Medical Center
Mansfield, TX

- 280,000 SF new market hospital
- Opened December 2006
- $32 million equipment budget
- $20 million IT budget

Services
Technology Integration and Coordination, Medical Equipment Planning, Procurement & Expediting, Installation Management, Medical Technology Systems Design, Low Voltage and Communication Systems Design

Components
General Medicine, Emergency Services, Imaging, Surgery, Intensive Care, Labor Delivery, C-Section, Recovery, Postpartum, Pediatrics

Architect
RTKL
SUTTER HEALTH SYSTEM

Mills-Peninsula Health Services
Burlingame, CA

• 410,000 SF 232 bed replacement hospital
• 2010 estimated completion
• $80 million equipment budget

Services
Medical Equipment Planning, OSHPD Support, Procurement Support

Components
ICU, Surgery, Radiology, Emergency, Med/Surg, Behavioral Health, Cardiac Cath Lab, Laboratory, Pharmacy, Central Sterile, Endoscopy

Architect
Anshen+Allen
INTERMOUNTAIN HEALTHCARE

Intermountain Medical Center
Murray, UT

- 1.2 million SF 468 bed flagship hospital
- 2007 estimated completion
- $90 million equipment budget

Services
Medical Equipment Planning, Construction Administration, Procurement Coordination

Components
Ambulatory Surgery Center, Cancer Center, Heart Center Tower, Inpatient Tower, Women’s and Children’s Center

Architect
Anshen+Allen
COMMUNITY HEALTH SYSTEM

Community Hospital North Expansion
Indianapolis, IN

- 1 million SF 212 bed new hospital
- 2007 estimated completion
- $9.5 million equipment budget

Services
Medical Equipment Planning, Equipment Budgeting

Components
Labor & Delivery Suites, C-section ORs, Neonatal Intensive Care Unit, Pediatrics, Antepartum Services, Pediatric Sleep Lab

Architect
RTKL
SAINT JOHN’S HEALTH CENTER

Saint John’s Health Center
Santa Monica, CA

• 475,000 SF replacement hospital
• Opened September 2004 (North Pavilion)
  2008 estimated completion (D&T Center)
• $30 million equipment budget

Services
Existing Inventory, Medical Equipment Planning,
Furniture Planning, Procurement, Construction Support,
Installation Management

Components
Diagnostic Treatment Center: Cancer Center, Breast
Center, Emergency, Imaging, 2 MRIs, 2 CT, 4 R/F/General,
3 Nuclear Medicine, 3 Chest, 92 Ultrasound, PACT,
PACU, Radiology Therapy, 11 Surgical Services.

Inpatient Tower: LAB/Pathology, Pharmacy, Respiratory
Therapy, 48 Oncology, 48 Orthopedics, 32 Critical Care &
Post Care, 12 LDRP, 10 Post Partum, 6 NICU, C-Section
Surgery, Nursery

Architect
HOK
ST. LUKE’S EPISCOPAL HOSPITAL
Texas Heart Institute at St. Luke’s Episcopal Hospital
Houston, TX

- 275,000 SF new hospital
- Opened December 2002
- $13 million equipment budget

Services
Medical Equipment Planning, Procurement & Expediting, Delivery, Installation, Start-up

Components
Cardiovascular Surgery, Cardiac Recovery, Patient Care/Nursing Units, Animal Holding Facilities, Research Laboratories

Architect
RTKL

Healthcare Technologies
TENET HEALTH SYSTEM

Centennial Medical Center
Frisco, TX

- 298,000 SF 118 bed new market hospital
- Opened June 2004
- $27 million equipment budget

Services
Medical Equipment Planning, Construction
Administration, Procurement, Installation

Components
ER, ICU, Full Service Women’s Center with LDR’s and NICU CVOR ORTHO & General OR’s all with the EndoSuite Concept Incorporated, Full Digital Imaging Department Including Cath Lab, Angio, MRI, CT, R/F, Rad, Nuclear Med, Ultrasound and Mammography, Electronic Patient Records, Cardio/Pulmonary Services

Architect
RTKL
THE CLEVELAND CLINIC FOUNDATION

The Cleveland Clinic, Heart Center
Arnold & Sydell Miller Family Pavilion
Cleveland, OH

- 950,000 SF new hospital
- 2008 estimated completion
- $60 million equipment budget

Services
Medical Equipment Specification Validation, Existing Inventory, Procurement Technical Assistance, Implementation

Components
16 Operating Suites, 12 Cath Labs, 13 Nuclear Medicine Rooms, 110 ICU, 128 Exam Rooms, 79 Procedure Rooms, 155 Physician Offices.

Architect
NBBJ
ADVENTIST HEALTH SYSTEM

Florida Hospital Waterman
Tavares, FL

- 450,000 SF 264 bed new market hospital
- Opened August 2003
- $29 million equipment budget

Services
Existing Asset Survey & Integration, Medical Equipment Planning, Procurement & Expediting, Installation Management, Start-up

Components
Cardiac Rehabilitation, Diagnostic Imaging, Cancer Center, Critical Care, Med/Surgical Patient Care, Emergency, Pharmacy, GI Lab/Endoscopy, Pediatric Patient Care, Outpatient

Architect
RTKL
THE UNIVERSITY OF CHICAGO HOSPITALS AND HEALTH SYSTEM

The University of Chicago Hospitals, Comer Children’s Hospital
Chicago, IL

- 242,000 SF 155 bed new hospital
- Opened November 2005
- $21 million equipment budget

Services
Equipment List Finalization, Equipment Specifications and Procurement Assistance, Construction Administration, Installation

Components
NICU, PICU, OR, Radiology, Medical/Surgical Beds, and Pre-OP/Post-Op

Architect
Proteus Group
COMMUNITY HOSPITALS INDIANA

The Indiana Heart Hospital
Indianapolis, IN

- 215,000 SF all-digital new hospital
- Opened 2003
- $26 million equipment budget

Services
Existing Asset Survey & Integration, Medical Equipment Planning

Components
72 Inpatient Beds, 16 CV Recovery Beds, 6 Cath Labs, 3 Heart and 1 Vascular OR Suites, Endovascular Suite, Sterile Processing, Imaging, ER.

GE Medical Strategic Vendor implementation.

Architect
RTKL
TRIHEALTH

Bethesda North Hospital

Cincinnati, OH

- 300,000 SF new hospital
- 2007 estimated completion
- $10.2 million equipment budget

Services

Medical Equipment Planning, Procurement & Delivery
Expediting, Installation Coordination

Components

88-bed Med-Surg Nursing Unit, 42-bed, Orthopedic Unit, 8-bed Post, Partum Unit, C-Section Unit, 22-bed Intensive Care Unit (ICU), 10-bed Cardiovascular ICU (CVICU), 11-bed Neuro ICU (NICU), Morgue

Architect

HDR
BAYLOR HEALTH CARE SYSTEM & TRAMMEL CROW

The Heart Hospital at Baylor, Plano
Plano, TX

- 165,000 SF new hospital
- Opened January 2007
- $17 million equipment budget

Services
Medical Equipment Planning, Procurement, Installation

Components
Diagnostic Imaging, Heart Emergency Department, Cardiac Catheterization Laboratories, Electrophysiology, Cardiovascular Surgery

Architect
RTKL
ST. LUKE’S EPISCOPAL HOSPITAL

St. Luke’s Episcopal Hospital, Patient Care Center
Houston, TX

- 1 million SF addition
- 2009 estimated completion
- $35 million equipment budget

Services
Medical Equipment Planning, Budget Analysis, Contract Document Coordination

Components
550 beds, new CSPD, 32 ORs, New Surgery Staff Support, New Invasive Radiology Suite

Architect
RTKL
UNIVERSITY OF CALIFORNIA SAN DIEGO
CARDIO CENTER/THORNTON HOSPITAL

UCSD Thornton Hospital
San Diego, CA

- 134,000 SF specialty addition
- 2009 estimated completion

Services
Medical Equipment Planning

Components
4 ORs, 6 Cath Labs, 18 ED Bays, High-Resolution Imaging Modalities, Four Clinics With a Total of 20 Exam Rooms, Non-invasive Diagnostics, and 60 Academic Offices.

Architect
RTKL
DEPARTMENT OF VETERANS AFFAIRS

Veteran Affairs Las Vegas CARES Hospital
Las Vegas, NV

- 882,000 SF new hospital & long-term care
- 2009 estimated completion
- $35 million equipment budget

Services
Medical Equipment Planning

Components
Acute Care, Long-term Care, Ambulatory

Architect
RTKL