

BAERWALD RESEARCH, LLC

Insight for the Built Environment

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Baerwald Research, LLC provides custom research services for AEC firms.

Contact Baerwald Research, LLC to discuss your questions about design, business development, or management issues. We'll work out a plan for scope of research, if necessary breaking a larger project into parts, and agree on a timeline and fee range. We'll stay in contact throughout a research project. An in-person or virtual check-in half way through is often helpful to clarify goals. Shorter consult / advice sessions are also available.

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RECENT RESEARCH TOPICS

- **Industry overviews** – major issues, outlook, players, trends, where will hot spots be, who will be most involved, what are our clients thinking about, what issues are they dealing with, how can we talk to them from a position of understanding
- **Industry outlook for states or regions** – major projects planned, AECs involved, funding, government programs
- **State-of-the-art trends in the design & planning** of a building or space type
- **Which AEC firms are active** within a specific building type
- **Background information** on specific companies, systems, people, geographic areas, developers
- **Creative financing** for specific building types
- **Collaboration** among AEC firms – who's collaborating with whom, how are they doing it
- **Survey and description** of AEC conferences
- **Background and historical context** of a local geographic area (historical photos, plans, drawings, documents, records, letters, histories, quotes, etc.)
- **Background, history, and context** of a historic building (historical photos, plans, drawings, documents, records, letters, histories, quotes, etc.)



DELIVERABLES - FORMAT

Deliverables are in Excel used as a blank sheet, all grid lines removed. Using Excel this way makes it possible to scroll freely to the right and down rather than having inconvenient page breaks.

Each aspect of an issue being researched gets its own tab (see examples).

Word can be used upon request. Some clients prefer Word if they want to print and read in hard-copy.

DELIVERABLES - EXAMPLES

3 examples are shown below (used with permission)

EXAMPLE 1 - Trends in Orthopedic Hospital Design

EXAMPLE 2 - Aviation project watch list for Colorado

EXAMPLE 3 - Science & technology outlook in 4 northeastern states

All examples are reduced-size screenshots showing details of specific tabs (or pages) of the Excel deliverable. They're meant to show general layout rather than specific content.

Examples below

EXAMPLE 1 – Trends in Orthopedic Hospital Design

The client wanted to understand the latest trends in the design of orthopedic hospitals, with recent examples, and specific issues relating to both design and planning of orthopedic hospitals.

This is the intro tab (page) with the client's query and navigation notes at the top, table of contents for the entire document just beneath (by tab, in green), and the actual tabs across the bottom of the page.

The screenshot shows a Microsoft Word document with a green header bar. The title bar reads 'Orthopedic Hospitals, Aug 2018'. The ribbon includes 'Home', 'Insert', 'Draw', 'Page Layout', 'Formulas', 'Data', 'Review', and 'View'. The document content is as follows:

Trends in Orthopedic Hospital Design
 Last updated Aug 8, 2018 Susan Barwald / Barwald Research, LLC / susanbarwald@gmail.com / 314-954-2079 / barwaldresearch.com

QUERY
 This document is in response to this query:
 Identify trends in the design of orthopedic care facilities / hospitals or trends in orthopedic care that might influence how those facilities are designed and planned.
 For example: planning principles, patient and surgery flow, healing environments, patient centered care, rehab trends, whatever helps ortho patients to heal better and quicker.
 Also: spine treatment trends, ASC, outpatient rehab / ortho urgent care / sports med.
 Esp. examples in Midwest and within the last 5 years.

NAVIGATION
 Scroll to the right to see all material.
 Most text is in screen shot form.
 Anything in Italics is added commentary or description.

What's in this document - TABLE OF CONTENTS

<p>Tab: INTRO / TABLE OF CONTENTS Query Navigation Table of Contents</p>	<p>Tab: GENERAL TRENDS Article: How Do We Make Orthopedic Surgery Easier for Our Physicians? (2018; Orthopedic Design & Tech) 50 spine surgeon predictions for 2018 (2018; Becker's Spine Review) The future of spine technology: 13 surgeon predictions (2018; Becker's Spine Review) The future of Specialty Care Facilities (2017; Medical Const. & Design) Top News in Orthopedics - How consumerism and patient experience are steering trends in hospital design (2018; MEDUniv) 14 Best Practices to Improve Patient Satisfaction in an Orthopedic Unit (2009; Becker's Hospital Review) A Peak at the Future of Orthopedics (2016; Orthopedic Design & Tech) Hospital and Orthopedic Service Line Trends (2018; Orthopedic Design & Tech) Major Trends Driving Change Across the Orthopedic ASC Market (2014; ECG Mgmt Consultants)</p>
<p>Tab: EXAMPLES - MIDWEST Article: OH - Cincinnati orthopedic hospital design stresses space, glass, light and connection to outdoors, Cincinnati OH OH - Final Beam Placed for Christ Hospital Joint and Spine Center, Cincinnati OH OH - Christ Hospital in Cincinnati brings its joint and spine care services under one roof, Cincinnati OH OH - Lam, Green, Carney, Mahline, Mann Valley Hospital Heart and Orthopedic Center, Dayton OH IL - Shirley Ryan AbilityLab by HDR Gender in Association With Clive Wilkinson Architects ... Chicago IL IL - Three Major Firms Collaborate on Massive Shirley Ryan AbilityLab in Chicago IL IL - Redefining Transition of Medicine by Integrating Research, Engineering, and Clinical Care, Chicago IL TN - Campbell Clinic breaks ground on \$300M expansion effort: 5 key points, Memphis TN TN - Forrest Health Orthopedic Institute Completed with Cutting Edge Interior Design Scheme, Nashville TN IN - Lutheran Orthopedic Hospital, Fort Wayne IN IN - Deaconess Health System Opens Orthopedic and Neuroscience Hospital, Newburgh, IN IN - Medical Construction Fever Pitch (2 ortho projects in IN) IN - Deaconess Gateway Hospital Orthopedic & Neuroscience Hospital, Newburgh IN</p>	<p>Tab: EXAMPLES - NON-MIDWEST Article: NY - Orthopedics plans from Bernstein & Associates Architects WA - Seattle's Swedish Orthopedic Institute project wins AISC national design award, Seattle WA WA - Swedish Orthopedic Institute, Seattle WA WA - PHOTOT TDR: CHI Franciscan Rehabilitation Hospital TX - Baylor Orthopedic and Spine Hospital of Arlington TX CA - Hoag Hospital Irvine CA CO - St. Mary's Hospital and Regional Medical Center, "The Century Project" CT - Hartford Hospital Bone & Joint Institute CT - Hartford Health Care Opens Bone & Joint Institute CT - Hartford Health Care unveils the future of orthopedic care NC - Inside Newent's \$67M orthopedic hospital in midtown Charlotte (PHOTOT)</p>
<p>Tab: DESIGN CONSIDERATIONS Article: Room to heal: Designing for orthopedic patient populations (2011; Health Facilities Mgmt) 5 Trends in Hospital Orthopedic Department Design (2011; Becker's Spine Review) ARCHITECTURE: GIANTS: Innovations From 51 top design firms (2016; BD+C) Innovation at 72 design firms (2017; BD+C) Healing garden doubles as therapy trails (2016; BD+C) Nature as therapy (2017; BD+C) Shhh!!! & ways to keep the noise down in new and existing hospitals (2015; BD+C) A survey challenges the efficacy of decentralized nurses station design (2017; BD+C) Skidmore and Partners for Safe and Spacious Healthcare Projects (2014; Architect) Building patient satisfaction (2016; Health Facilities Mgmt) Designing The OR Of The Future (2015; Health Care Design) The Operating Room of the Future (2018; WSI) 5 Considerations for Orthopedic Surgery Center Construction (2011; Becker's Spine Review) Whole to One: Trends in Sports Medicine Design (2016; Health Care Design) Modern Medicine, It's a Brave New World in Health Care Design Today (2017; Knoll) Patient Room Design Checklist and Evaluation Tool (2015; The Center for Health Design) Quality of Inpatient Hospital Rooms: Patients' Perspectives, (2016; HEBQ)</p>	<p>Tab: PLANNING CONSIDERATIONS Article: Medical Military Facilities Templates - Cast Unit, Multi-Station (2015; DoD7) Space Planning Criteria, Chapter 286: Surgical and Endovascular Services (2016; VA) Space Planning Criteria, Chapter 298: Prosthetics and Sensory Aids Services (2016; VA) CHAPTER 312: ORTHOPEDICS, PODIATRY, PHYSICAL MEDICINE & REHABILITATION, CHIROPRACTIC AND SPORTS MEDICINE (2016; DoD)</p>

At the bottom of the page, there is a navigation bar with the following tabs: INTRO TOC (highlighted in green), GEN TRENDS, Examples - Midwest, Examples - Non-Midwest, DESIGN, PLANNING, and a plus sign (+).

Example 1 (cont), second tab - General Trends

- Table of contents for this page is at the top; content follows below the thicker grey bar.
- All content items (articles & reports) are separated by thinner grey bars.
- For each item you get a link to the full article and enough text and images to show why it's relevant, with the most important parts shown, usually as screenshots.
- This screenshot shows the first 4 articles on this page.

Trends in Orthopedic Hospital Design
 Last updated Aug 8, 2018
 Susan Borewell / Borewell Research, LLC / s.borewell@br.com / 314-954-2079 / borewellresearch.com

GENERAL TRENDS

What's on this page

Articles on general trends in orthopedics:

- How Do We Make Orthopedic Surgery Safer for Our Physicians? (2018, Orthopedic Design & Tech)
- 50 spine surgeon predictions for 2018 (2018, Becker's Spine Review)
- The future of spine technology: 13 surgeon predictions (2018, Becker's Spine Review)
- The future of specialty care facilities (2017, Medical Construction Design)
- Top News in Orthopedics - How concerns and patient experience are shaping trends in hospital design (2018, MED)
 - 14 Best Practices to Improve Patient Satisfaction in an Orthopedic Clinic (2018, Becker's Spine Review)
- A Peek at the Future of Orthopedics (2018, Orthopedic Design & Tech)
- Healthcare and Orthopedic Service Line Trends (2018, Orthopedic Design & Tech)
- Major Trends Driving Change Across the Orthopedic ASC Market (2014, ASC Management)

GENERAL TRENDS IN ORTHOPEDICS

How Do We Make Orthopedic Surgery Safer for Our Physicians?
 May 29, 2018, ODT - Orthopedic Design & Technology
<http://www.orthopedicdesign.com/2018/05/29/how-do-we-make-orthopedic-surgery-safer-for-our-physicians/>

Article aimed at suppliers of orthopedic tools
 Discusses more of ortho physicians between private practice and hospitals

Screenshots of beginning of article:

Meta Stephens, President and Founder, MetaVantage

The practice of orthopedic surgery is still getting through a significant transformation. Practice shifts from private to hospital employees and back to private again. This level of turbulence creates ambiguity, confusion, stress, and opportunity.

Why This Is Important

Hospital employment of orthopedic surgeons has surged and decreased over the past 10 years. The trend of increasing hospital employment of orthopedic physicians has been driven by the U.S. healthcare environment and reimbursement shifts. Practice dynamics are changing (and discouraging) for orthopedic surgeons. According to the AAOA in 2016, an estimated 35 percent of orthopedists worked in private practice groups. Following that, 17 percent worked in solo practices in hospitals, while 15 percent are employed in an academic institution. Rounding out the total, 11 percent work in solo private practice, and 8 percent work in multi-specialty groups (Table 1).

RELATED CONTENT

- The Pain Points in Making Awareness of Medical Technology
- Considerations for the Anterior Approach to Hip Replacement
- Joint-Targeting System Management Through Neurostimulation
- Conforms Knee Replacement System Awarded 5K Rating in UK
- AAOS Commends Dr. David Metal Anterior Approach Software

Setting	Percentage
Private Practice	11%
Hospital	17%
Academic Institution	15%
Multi-Specialty Groups	8%
Solo Private Practice	8%

50 spine surgeon predictions for 2018
 Jan 16, 2018, Becker's Spine Review
<http://www.beckers.com/articles/50-spine-surgeon-predictions-for-2018.html>

2 of the 50 comments (most were on the relationship between clinics, doctors, and hospitals, reimbursement, etc.)

Mike Khanna, MD, Spine Care Specialist (Baltimore, Md.): The most important trend for spine surgeons in 2018 is the move to outpatient spine. However, remaining independent will continue to be a challenge with the consolidation of healthcare entities. Getting timely insurance expertise and negotiating knowledge to move spine to an outpatient facility is the best opportunity this year.

Andrew Hacht, MD, Chief of Spine Surgery at Mount Sinai Hospital and Health System (New York City): The most relevant technology trends in 2018 are the use of 3D printing to create patient-specific guides and the use of BIM-2D to improve communication and performance of orthopedic surgeons. In addition, spine surgeons are beginning to use 3D printing to create patient-specific guides for minimally invasive spine surgery and to improve patient communication after surgery.

The future of spine technology: 13 surgeon predictions
 May 16, 2018, Becker's Spine Review
<http://www.beckers.com/articles/the-future-of-spine-technology-13-surgeon-predictions.html>

Many remain minimally invasive in surgery, automation (like robots), implant design

Allyson Tully, MD, Athlete (St. Louis): The biggest technical change will be the continued use of minimally invasive spine and the continued transfer of spine procedures into an ambulatory surgery center setting.

The Future of Specialty Care Facilities
 Purpose for Better Orthopedic Facilities, Rehabilitation News
 Jan 16, 2017, Medical Construction & Design
<http://mcdm.com/2017/01/the-future-of-specialty-care-facilities/>

Discuss an alternative level of care facilities
 Discuss how models meet needs and structure and environment
 List differences environment leads to each base of models and timing
 2 examples of equipment use discussed

Also of interest:

like most areas of healthcare, physical therapy practices are adjusting to rapidly changing market conditions and technological advancements, in addition to a growing number of young athletes and an aging baby boomer population impacting the ways in which these types of facilities are being designed.

Building Treatment Modalities

Physical therapy practice owners are always searching for the "next best thing" - any new modality, treatment method or specialty area that will provide an edge over their competitors and improve patient outcomes. More traditional modalities, such as ultrasound, heat and ice, are being replaced by cold laser, cryomodality, cupping, hydrotherapy pools and cryotherapy chambers. The stationary bike has been replaced by the anti-gravity treadmill; the Total Gym has been supplanted by the TRX suspension training. While any one of these modalities could potentially set a clinic apart from its competitors, these many pieces of equipment are usually cost-prohibitive for most outpatient orthopedic practices. Furthermore, many facilities lack the necessary space and structural reinforcement to handle the latest technology. When coupled with financial limitations due to poor

Economics & partnerships

Many new clinic owners have opted to avoid contracting with insurance companies, altogether. Instead, they have adopted a cash-based model in which patients pay out of pocket for services and later submit their "out-of-network" expenses to insurance providers for reimbursement. Therapists can see one patient per hour, rather than three or four, with a similar business line, thus allowing for more ethical treatments and faster outcomes with fewer visits. Other outpatient practices are teaming up with existing gyms and sports performance facilities to increase their referral base and avoid, or at least share the cost of, purchasing expensive equipment.

Design alternative - indoor/outdoor dual-use concepts

From a design perspective, physical therapy gyms greatly mimic their commercial partners, both in types of equipment and overall aesthetic. It should come as no surprise, then, that many new facilities are being created in former "big-box" stores and gymsnasiums that offer column spacing and ceiling heights in accordance with a gym or PT clinic's requirements. The key for these retrofits is to ensure adequate natural daylight permeates the treatment spaces. When

Recognizing a growing trend of sports-related injuries, Stamford Health, located in Stamford, Connecticut, teamed with the Hospital for Special Surgery in New York, New York, to create a facility capable of responding to the needs of their most active patients. The HSS Sports Rehab at Chelsea Piers treats active individuals of all ages, including young athletes, competitive athletes and weekend warriors. The 9,300-square-foot facility, designed by The SLAM Collaborative (SLAM) offers non-surgical, pre-operative and post-operative care. Cutting-edge equipment onsite includes a Swisski physical therapy pool, as well as an AbarO anti-gravity treadmill. The new rehabilitation unit includes a 3,200-square-foot, double-height physical therapy gym, five open treatment bays, three private treatment rooms, hand therapy treatment space, reception area, locker rooms and support space. Incorporating physical therapy clinic design trends, such as the double-height PT gym featuring abundant natural daylight, and utilizing a sleek palette of modern finishes in keeping with a sports-related aesthetic, was important to the client. In addition, the design and finishes afford single opportunity for environmental branding, another critical component in physical therapy clinic design.

The emergence of new technology, combined with a healthcare system in a constant state of flux, has led medical professionals to come together to ride the wave. Their partnerships may be economical in nature, but are also quite practical and flexible. Patients face challenges beyond a simple diagnostic, consultation, medication profiles and even psychological issues, at any an important role in the treatment a patient may require, and having multiple medical professionals under one roof makes this process easier for both the patient and the specialist.

Example 2 includes design photos

An example of this type of multi-specialty and physical therapy clinic can be found at the Yale-New Haven Haven Long Ridge Medical Center. Designed by SLAM and featuring Yale Medical's Center for Musculoskeletal Care, the 52,000-square-foot facility, a joint venture between Yale Medicine, Yale New Haven Health's Greenwich Hospital and Northwest Medical Group, offers multi-specialty care for orthopedic, neurology, rheumatology, physical therapy and occupational therapy. The alignment of central waiting areas forms a "spine" joining the two portions of the fit-out together and supports an on-staged stage organizational model to enhance staff productivity and efficiency, and to foster team-based collaboration. In addition, the design layout was able to maximize exterior views throughout the facility, which was important considering the vertical limitations in the PTH gym. Support spaces were carefully planned near treatment areas with future expansion and flexibility in mind - a luxury many clinics strive to incorporate. Within the exam clusters, pairs of alternating, equipped exam and consult rooms provide operational flexibility based on patient demand for particular specialties, and are designed to break down barriers between the patient and their physician, emphasizing face-to-face communication and increased patient assessment.

The future of PT

Recognizing the need for more external of State Boards of Physical Therapy to complete a Doctorate of Physical Therapy, offering modernized program of physical therapists. Many academic programs are well, complete with clinic help enhance fellowship training within These alliances extend beyond the clinic development space within engineering medical centers. Recent achievements include the development of robotic exoskeletons, prosthetics, and orthotics. Many have been constructed utilizing generating a sense of hope for users with developmental disabilities. As regulations, technology and rehab, has never been more important for clinical. From reduction, innovation, costs

Example 1 (cont), third tab - Midwest Examples

Each tab has its own table of contents at the top for easier navigation.

Note how scrolling freely to the right enables seeing an entire article, especially when the page is full size.

This screenshot shows the first 4 articles plus the top half of the 5th.

The screenshot shows a web browser window with a navigation menu at the top. The menu includes 'Home', 'Insert', 'Draw', 'Page Layout', 'Formulas', 'Data', 'Review', 'View', 'Acrobat', and 'Tell me'. Below the menu is a search bar with the text 'BN6'. The main content area is titled 'Trends in Orthopedic Hospital Design' and features a table of contents with four articles and the top half of a fifth. The articles are: 1. 'The Christ Hospital Joint and Spine Center' (dated 04.10.2015), 2. 'The Christ Hospital Joint and Spine Center' (dated 04.10.2015), 3. 'The Christ Hospital Joint and Spine Center' (dated 04.10.2015), and 4. 'The Christ Hospital Joint and Spine Center' (dated 04.10.2015). The fifth article is partially visible. The browser's address bar shows 'Orthopedic Hospitals, Aug 2018'.

EXAMPLE 2 – Aviation project watch list for Colorado

The client wanted a way to track construction planning activity at Colorado airports (capital plans, master plans, contact, news, etc.) with enough lead time to develop a relationship with potential client airports. There are 3 tabs: the tracking page, information specific to Colorado, and FAA information.

Below are screenshots of two of the three tabs, or pages, within this deliverable

Example 2 - The initial tracking page; starting at the left with a fixed column for map, aerial photo, and main website for each airport; with columns to the right for links to CIPs, MPs, contacts, news, etc.

The screenshot shows a Microsoft Excel spreadsheet titled "Aviation COLORADO". The spreadsheet is a watch list for aviation projects in Colorado. It has the following columns: City, Airport/Local, CP, Master Plan, General Info, People, Opportunities, and Notes/Additional Info. The rows list various airports and their associated projects, including maps, aerial photos, and links to project information.

CITY	AIRPORT/Local	CP	Master Plan	General Info	People	Opportunities	Notes/Additional Info
ALAMEDA	San Luis Valley Regional/Bergman Field / AUSA	See MP for 2006 CP watchlist	MP 2011/2012 available in master plan	The actual document is labeled "Airport Land Plan" 5.246 and CP watchlist for 2006-2012. Includes and contains a 2.4 Capital Improvements will undergo a MP study in 2012	See San Luis Valley Regional Airport	See San Luis Valley Regional Airport	Systems projects may include: 1. Runway 2. Taxiway 3. Terminal 4. Air traffic control tower 5. Instrument landing system 6. Air traffic control tower 7. Air traffic control tower 8. Air traffic control tower 9. Air traffic control tower 10. Air traffic control tower
ARAPAHOE	Arapahoe-Poudre County (Sandy Field) / AUSA	MP 2011/2012 available in master plan	MP 2011/2012 available in master plan	MP 2011/2012 available in master plan	See Arapahoe-Poudre County Airport	See Arapahoe-Poudre County Airport	The terminal could cost up to \$225 million, he said 50 percent and 50 percent of that cost, Arapahoe said and 2012 to make their findings known about the 2012 or 2013, he said
COLORADO SPRINGS	City of Colorado Springs Municipal / COS	City of Colorado Springs 2012 CP	City of Colorado Springs 2012 CP	City of Colorado Springs 2012 CP	See City of Colorado Springs Airport	See City of Colorado Springs Airport	They use Rocky Mountain 3 Parking System for MP, MP, MP, and search system, including MP
CORTEZ	Cortez Municipal / CO	MP 2011/2012 available in master plan	MP 2011/2012 available in master plan	MP 2011/2012 available in master plan	See Cortez Municipal Airport	See Cortez Municipal Airport	MP 2011/2012 available in master plan
DENVER	Denver International / DEN	MP 2011/2012 available in master plan	MP 2011/2012 available in master plan	MP 2011/2012 available in master plan	See Denver International Airport	See Denver International Airport	MP 2011/2012 available in master plan
DURANGO	Durango-La Plata County / DMO	MP 2011/2012 available in master plan	MP 2011/2012 available in master plan	MP 2011/2012 available in master plan	See Durango-La Plata County Airport	See Durango-La Plata County Airport	MP 2011/2012 available in master plan
EAGLE COUNTY	Eagle County Regional / ECR	MP 2011/2012 available in master plan	MP 2011/2012 available in master plan	MP 2011/2012 available in master plan	See Eagle County Regional Airport	See Eagle County Regional Airport	MP 2011/2012 available in master plan

Example 2 (cont) - The general CO aviation page, with table of contents for that page and a state map of airports at top, followed below the grey bar by information on agencies, people, and programs unique to CO.

AutoSave OFF
Home Save Undo Redo

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AVIATION PROJECT WATCH LIST

COLORADO

last updated Aug 29, 2018

GENERAL INFORMATION

What's on this page

STATE OF COLORADO

- CO Division of Aeronautics
 - Colorado Aeronautical Board
 - Div of Aeronautics Annual Reports
 - Colorado Airport System
 - Maps, economic impact report
 - WIMS Portal User's Manual, v1.0 2016
 - FY 2018 CIP Workshop (2+ hrs on YouTube)
- Co Dept of Transportation
 - News, aerotropolis info, sustainability
 - Colorado Transportation Options
 - Statewide Transportation Demand Management Plan
 - Statewide Transportation Improvement Program (STIP)

OTHER SOURCES

- Business organizations
- general CO aviation news
- lists of possible sources

BID / RFP WEBSITES

- RFPs and Business Opport. (Amer Assoc of Airport Execs)
- Rocky Mountain E-Purchasing System
- Colorado Bid Network

AIRPORT DATA

- aimnav.com
- Airport IQ 5010

Colorado Airports Map

Map source: <http://www.colorado.gov/agencies/aeronautics/coloradoairportssystem/coloradoairports>

STATE OF COLORADO

CO Division of Aeronautics

<https://www.colorado.gov/agencies/aeronautics>

Contact Us

<https://www.colorado.gov/agencies/aeronautics/contact>

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Office Hours:
 8:00 a.m. - 4:30 p.m.

Public Meeting Notices

NEXT CAB MEETING:


WHEN:
 Wednesday, August 29, 2018
 CAB/Staff Workshop - 8:00 a.m.
 CAB Meeting - 1:00 p.m.

WHERE:
 Colorado Division of Aeronautics
 Joseph H. Thibodeau Room
 5126 Front Range Parkway
 Watkins, CO 80137


PURPOSE: CAB/Staff Workshop and General Business Meeting

DOWNLOAD: Coming Soon!


*Video of this meeting will be recorded and available for later viewing.
[Click here to view past meetings.](#)




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◀ ▶
CO Watch List
CO general info
FAA
+

EXAMPLE 3 – Science & technology outlook in 4 northeastern states

The client wanted an overview of the science & technology industry in four states – including state investments, initiatives, organizations – as well as within specific market subsectors: companies, academia, private or Federal entities, and a list of conferences that might be of interest. Each of those categories gets its own tab.

Below are 3 screenshots from this example

Example 3 - The Intro / General page – includes client query, table of contents for the entire document, and navigation notes above the thicker grey band, with general articles below that thicker grey line.

Below the thicker grey line you can see the first 3 general articles on this page.

Note the tabs across the bottom of the document, one for each aspect of this project.

The screenshot displays a Microsoft Excel spreadsheet titled "Northeast S+T, Jan 2019.xls" in Compatibility Mode. The spreadsheet is organized into several sections, each with a corresponding tab at the bottom. The main content area shows a detailed table of contents for the report, listing various topics and their corresponding page numbers. The table of contents is structured as follows:

Section	Topic	Page
INTRO & GENERAL	Client Query	1
	Table of Contents	2
	Executive Summary	3
	Introduction	4
	Methodology	5
	Scope	6
	Key Findings	7
	Conclusions	8
	Recommendations	9
	Appendix	10
INDUSTRY SUBSECTORS	Biotechnology	11
	Information Technology	12
	Advanced Manufacturing	13
	Space	14
	Autonomous Systems	15
	Artificial Intelligence	16
	Robotics	17
	Virtual Reality	18
	Augmented Reality	19
	Blockchain	20
BIOPHARMACEUTICAL INDUSTRY ASSOCIATIONS	Association of American Biotech Companies (AABC)	21
	Association of Biotechnology Manufacturers (ABM)	22
	Association of Biotechnology Users (ABU)	23
	Association of Biotechnology Entrepreneurs (ABE)	24
	Association of Biotechnology Professionals (ABP)	25
	Association of Biotechnology Researchers (ABR)	26
	Association of Biotechnology Students (ABS)	27
	Association of Biotechnology Teachers (ABT)	28
	Association of Biotechnology Parents (ABP)	29
	Association of Biotechnology Friends (ABF)	30
New York	State Investment	31
	State Initiatives	32
	State Organizations	33
	State Conferences	34
	State Companies	35
	State Academia	36
	State Private & Fed	37
	State Events	38
	State News	39
	State Outlook	40
New Jersey	State Investment	41
	State Initiatives	42
	State Organizations	43
	State Conferences	44
	State Companies	45
	State Academia	46
	State Private & Fed	47
	State Events	48
	State News	49
	State Outlook	50
Pennsylvania	State Investment	51
	State Initiatives	52
	State Organizations	53
	State Conferences	54
	State Companies	55
	State Academia	56
	State Private & Fed	57
	State Events	58
	State News	59
	State Outlook	60
Connecticut	State Investment	61
	State Initiatives	62
	State Organizations	63
	State Conferences	64
	State Companies	65
	State Academia	66
	State Private & Fed	67
	State Events	68
	State News	69
	State Outlook	70

Below the table of contents, there are several preview images of report pages, including an overview, industry subsectors, and biopharmaceutical industry associations. At the bottom of the spreadsheet, there are navigation tabs for 'intro General', 'New York', 'New Jersey', 'Pennsylvania', 'Connecticut', 'Companies', 'Academic', 'Private & Fed', and 'Events'.

Example 3 (cont) – Detail showing

- project scope (description of project) at top
- state maps
- a portion of the table of contents for the entire document; this particular table of contents was in two rows; in this detail you can see the first row showing table of contents for each state tab

AutoSave OFF | Northeast S+T, Jan 2019.xls - Compatibility Mode

Home Insert Draw Page Layout Formulas Data Review View Acrobat Tell me Share Comments

AG3

NORTHEAST S+T OUTLOOK - NY / NJ / PA / CT

Last updated Jan 31, 2019 | Susan Baerwald | Baerwald Research, LLC | susan.baerwald@gmail.com | 314-954-2079 | www.baerwaldresearch.com

INTRO & GENERAL

This document is in response to the following query:

Project scope

- Regional overview of S+T industry activity in NY, NJ, PA, CT, especially any state investments, initiatives, organizations (like DASNY in NY and DGS in PA)
- Major biopharma companies in the region – who they are, major projects, etc.
- Academic research facilities – outlook for major S+T projects, including health sciences, medical, STEM teaching, engineering, etc.
- Private sector R&D – major players, outlook for major projects
- Bio events, conferences

TABLE OF CONTENTS, BY TAB

Scroll to right to see all tabs >>>
2 rows of tab contents

SCROLL TO RIGHT TO SEE: [INTRO / GENERAL](#) [NEW YORK](#) [NEW JERSEY](#) [PENNSYLVANIA](#) [CONNECTICUT](#) >>>

INTRO / GENERAL tab	NEW YORK tab	NEW JERSEY tab	PENNSYLVANIA tab
<p>TABLE OF CONTENTS FOR ENTIRE DOCUMENT</p> <p>GOVERNMENT The Biopharmaceutical Industry in the United States [Internat. Trade Admin.] State Gov R&D Expenditures Increase 7% in FY 2017; Health-Related R&D Up 13% (NCSES - Nat Ctr for Sci and Eng Statistics) FY 2019 Budget Request to Congress - Table of Contents (NSF) NIH Awards by Location & Organization</p> <p>INDUSTRY Four trends poised to disrupt pharma real estate (ILL) Emerging Biotech: Innovation, Location, and Inspiration; Examining the rise and reach of biopharma in the Northeast Corridor (PharmExec) Investment, Innovation and Job Creation in a Growing U.S. Bioscience Industry (TEconomy / Bio Used to be Battle!)</p> <p>BioSpace Hotbeds 2019 Pham Country News Top 10 U.S. Biopharma Clusters (GEN-Genetic Engineering & Biotech News) 2018 Regional Report: The Northeast (Chief Executive) Industry News Archive (TradeLine)</p>	<p>OUTLOOK Kiplinger's Economic Outlook for All 50 States AL Long Island life sciences outlook New York life sciences outlook New York venture capital funding soars in Q3, led by tech companies</p> <p>STATE New York Economic Development Incentive Programs Governor Cuomo Announces Another Major Milestone in Life Sciences Initiative DASNY - New York State Intro / Services Health Care Higher Education Success Stories Active Construction Projects RFPs and Bids Article (2016): Inside DASNY State University Construction Fund City University Construction Fund Next steps for the new \$750 million lab proposed in Albany New Wadsworth Lab in the City of Albany</p> <p>NEWS Blatt committed for CT CR Biotech Hub milestone review</p>	<p>OUTLOOK Kiplinger's Economic Outlook for All 50 States AL New Jersey life sciences outlook These five U.S. states offer investors big incentives to go green New Jersey Economic Outlook: September 2018, A Rising Tide Lifts New Jersey (Wells Fargo) Cushman & Wakefield: Life Sciences Driving Improved NJ Office Fundamentals</p> <p>STATE NBIA - New Jersey Business & Industry Assoc. NBIA Releases Indicator of Innovation Report on State's Rankings State Launches "Research with NJ" ...to Drive Industry-Academic Collab. Research with New Jersey NECDA - New Jersey Economic Development Authority New Jersey Biotechnology Task Force Emerging Technology & Life Sciences Murphy reveals his "master plan" to revive N.J.'s economy. Growing the Future: State Efforts to Advance the Life Sciences</p> <p>UNIVERSITY RELATED Construction forecast bright with 45B in projects scheduled for NJ Independent Colleges & Universities - \$3.5 billion impact on New Jersey Research with New Jersey Choose New Jersey (includes lists of major companies/institutions) Life Sciences</p>	<p>OUTLOOK Kiplinger's Economic Outlook for All 50 States Pittsburgh Skyline (ILL) Pennsylvania Economic Insights (Wells Fargo)</p> <p>STATE DGS - Dept of General Services Capital Project Funding Guide (DGS) Design Dept Search for state facility capital plans Commonwealth enacted 2018-19 budget Dept of Community and Economic Development Technology & Innovation Ben Franklin Technology Partners Innovation Partnership Innovate in PA Pennsylvania Life Sciences Greenhouse Initiative The Life Sciences Greenhouse of Central PA Pumped Nearly \$2.5 Million into Central Pennsylvania Startups in 2018 Colleges and Universities Life Sciences Pennsylvania (with regional and real estate partners) 2017 PA Life Sciences Industry Economic Impact Report Newsletter</p> <p>INNOVATION HUBS Innovation Hubs and Incubation, Plus Academic Research</p>

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Last detail, below

Example 3 (cont) – Table of contents for Pennsylvania tab

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PENNSYLVANIA

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2017 PA Life Sciences Industry Economic Impact Report
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Drexel University's successful innovation district (JLL) - Schuylk Yards
Penn Center for Innovation
Axalta Opens Global Innovation Center in Philadelphia, Pennsylvania
PA Innovation Hubs
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NEWS
Life Sciences Companies in Philadelphia with the Most Employees
Search for "research center pennsylvania" (Tradeline)
Search results for "pennsylvania" (FierceBiotech)
Philadelphia's uCity Square kicks off major expansion drive
Lannett acquires 23 generic drug products from Endo subsidiary
Philadelphia Business Journal search for "biopharma"

MISC
Pharmaceutical Industry (history of industry in PA)

NOTES ON NAVIGATION
Screenshots are used extensively in this document
No live links within a screenshot
Go to main website for those links
Scroll to right to see all material

THANK YOU

If you have questions please contact me,

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