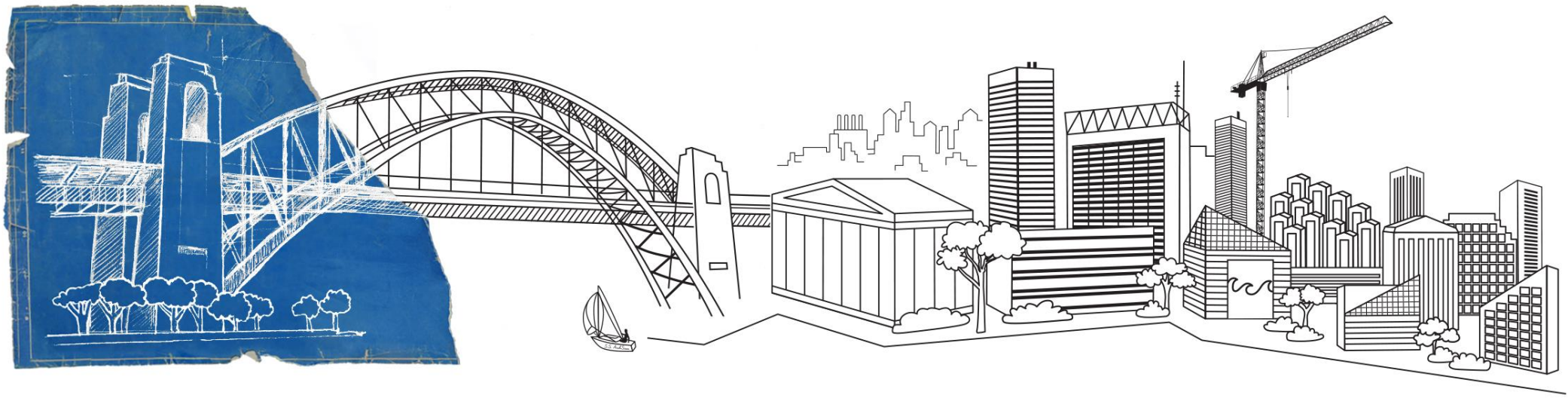




Bridging the Paper to Digital Divide

Document Management

Benefits and ROI



Benefits and ROI of Cloud-Based DMS



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Ms. Vivica Williams is the president of archSCAN. She has been working in the document management industry for 19 years.



- Woman-Owned Small Business from Maryland, WBE- Baltimore City, MBE- M-Dot
- Two decades of digitization experience (since 2002)
- Specialized in public works/facilities/ construction documents
- State of the art Production Center
- Scanned millions of documents and drawings
- Set-Up and Customized many Document Management Systems
- Manages the systems going forward





Organizing, digitizing, and implementing user-friendly document management solutions is our specialty.



Benefits and ROI of Cloud-Based DMS

CLIENTS

FEDERAL, STATE,
LOCAL GOVERNMENT

SCHOOL SYSTEMS

UNIVERSITIES

HOSPITALS



Benefits and ROI of Cloud-Based DMS

WHAT IS THE CURRENT SITUATION?

- What is your document management situation?
- What are your challenges?
- What are your future goals?



THE PROBLEM

Paper Documents

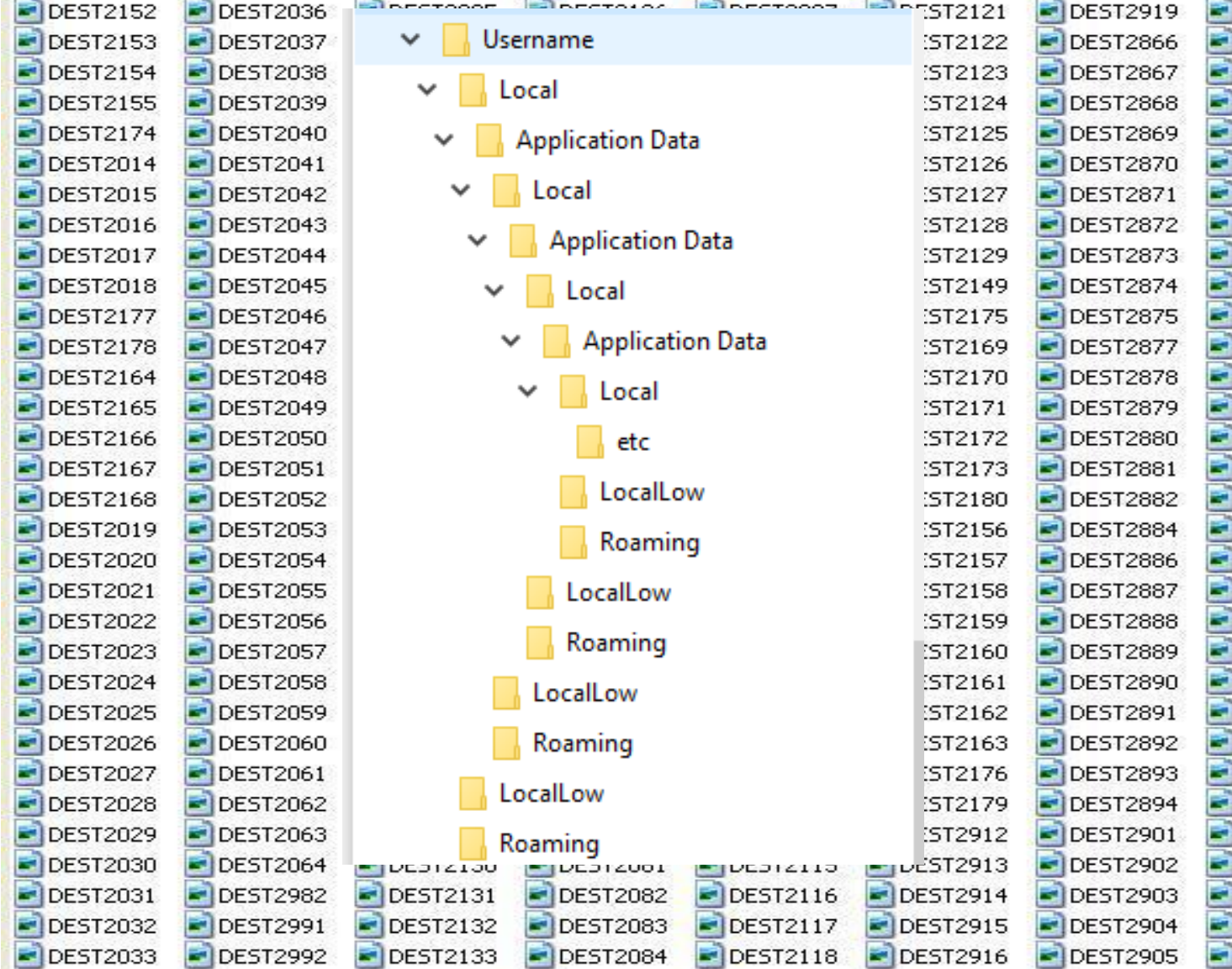
- Notoriously difficult to keep organized
- Hard to search
- Have to keep for the life of the building/asset
- Many formats (DWG, Revit, PDF, TIFF, Paper)
- Many locations (Plan Room, Server, DMS, Spreadsheets)



THE PROBLEM

Electronic Files

- Electronic files are poorly organized
- Naming conventions are illogical
- Hard to search
- Deep folder structures



CATALYSTS FOR CHANGE

- Retirement/Change in Management
- Disaster Strikes
- Space Utilization
- Adapt to remote workforce
- Adopt new technologies (AI)



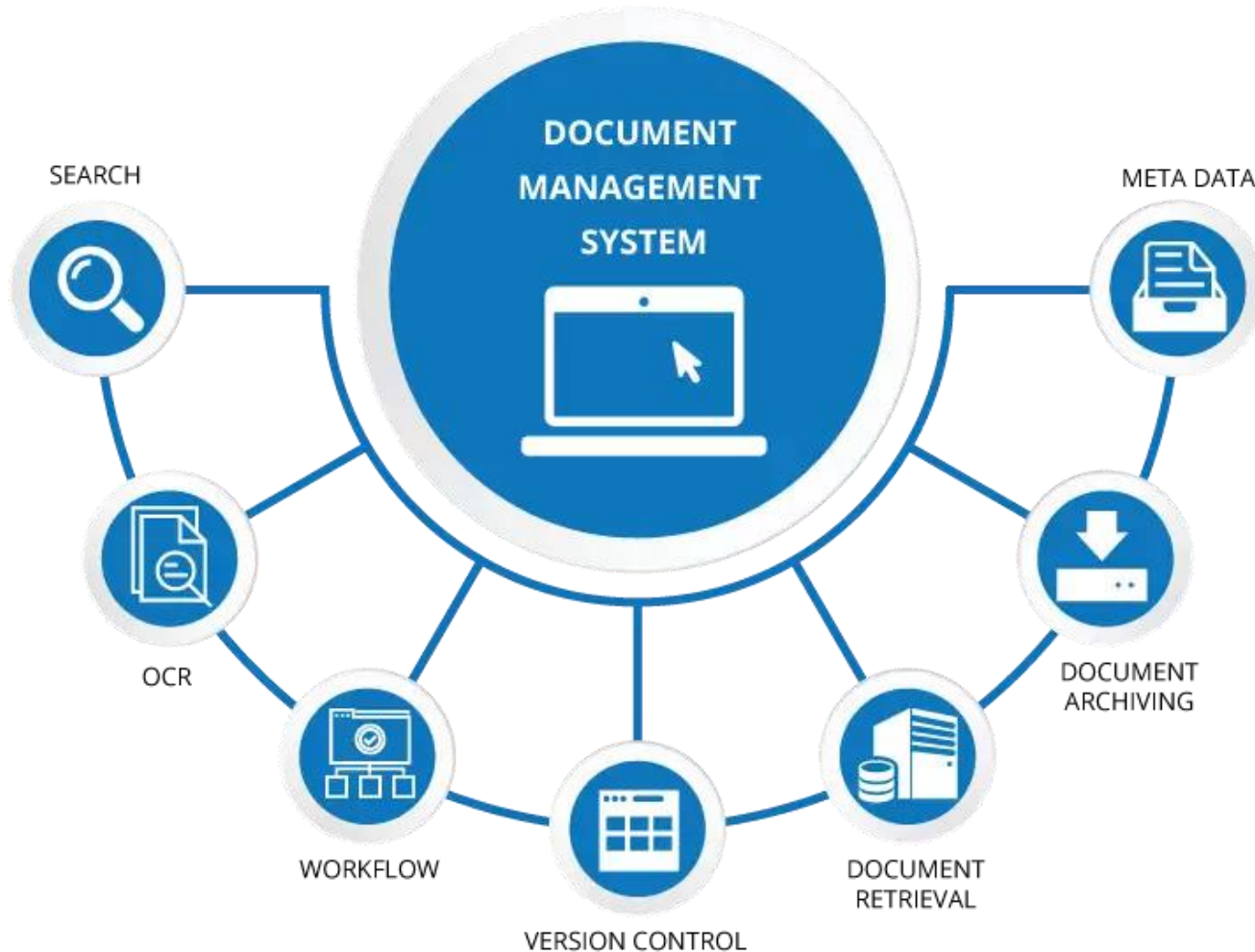
Why Invest in a DMS?

- Searchability and Organization
- Accessibility and Convenience
- Collaboration and Version Control
- Security
- Environmental Impact
- Scalability
- Integration with other tools
- Disaster Preparedness
- Cost Savings

BENEFITS OF A DOCUMENT MANAGEMENT SYSTEM



CENTRAL REPOSITORY



- Data Integrity
- Standardization
- Version Control
- Search Capabilities
- Sharing
- Lifecycle Management
- Workflow

Searchability

How are people searching for documents?

- Building Name, Project Name, Project Number
- Discipline, Sheet Title
- Keyword
- Date
- Customized metadata to include unique fields

Find information fast!

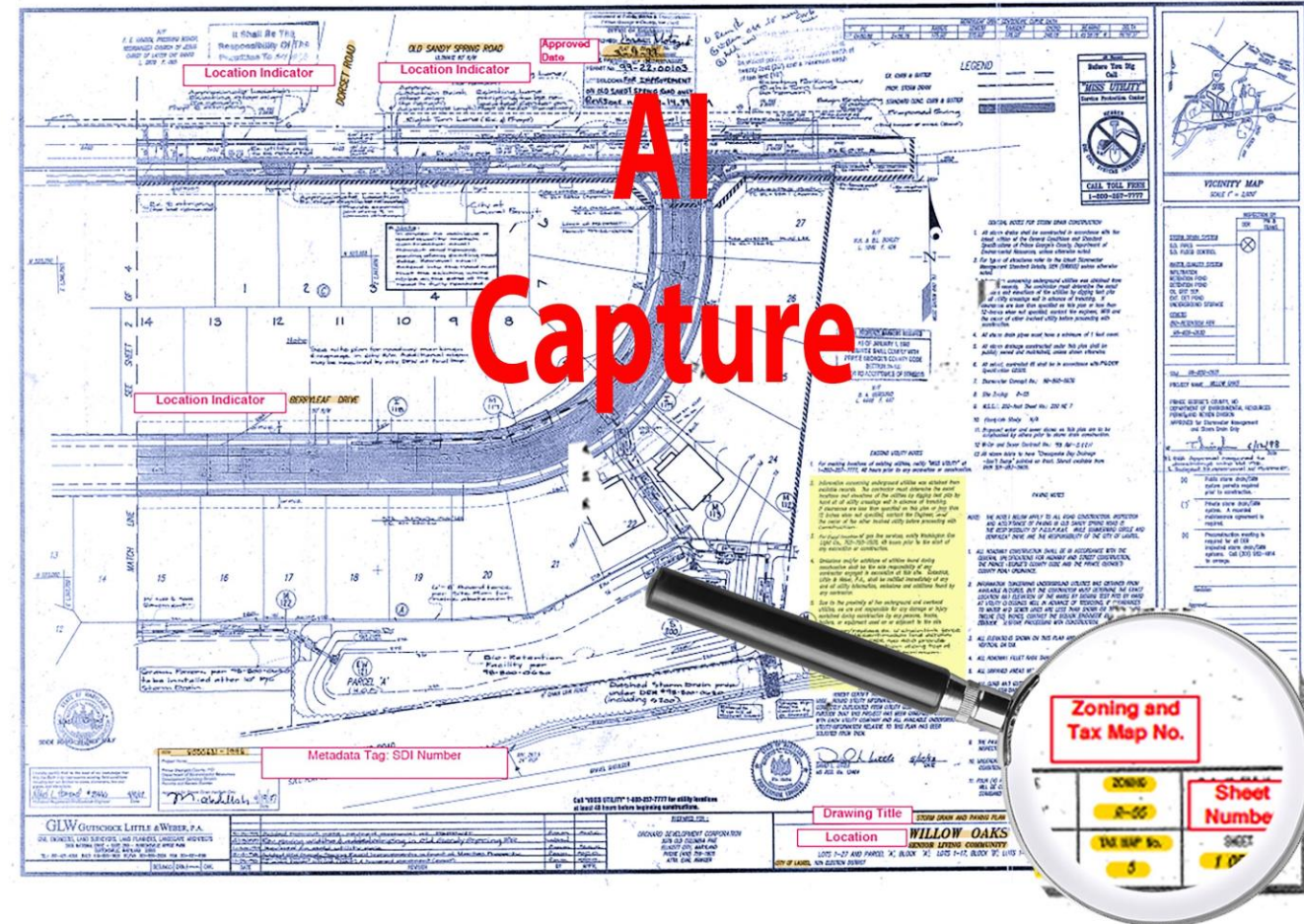


Structured Metadata

- Document Type: Specs, drawings, O&M
- Building #/Name
- Project Name
- Date
- Level of Design – Design, Const, As-built
- Discipline – Mech, Elec, Civil
- Sheet Title
- Floor
- Author

Unstructured Data

- AI Text Recognition



Intelligent Document Processing (IDP)

IDP vs OCR

	IDP	OCR
Technology	Machine Learning	Rules Based
Workflow	Automated	Human Intervention
Document Type	Structured and Unstructured	Structured only
Scale	Unlimited (Serverless)	Constrained manual post-processing
Turnaround	Minutes/Hours/Days	Days/Weeks/Months
Accuracy	Highest accuracy	Dependent on templates
Learning Capabilities	Continuous	None

Accessibility of the Documents

- Cloud-based
- Only need internet connection
- Anywhere (Home, Office, Job Site)
- Anytime
- Any Device
 - Laptop
 - Ipad
 - Phone
 - No hardware/storage constraints



Quick Access



Collaboration and Version Control

- Many people need to have access to the information
- Quick response in emergencies
- Not reinventing the wheel
- Allows for real-time collaboration
- Many can access the same document at the same time
- Version control- most recent version is what is displayed- CHANGE MANAGEMENT
- Linking Asset Documents to the relevant systems through hyperlinks/QR codes/Asset Numbers

Architects
Engineers
Campus Planners
Plumbers
Electricians
HVAC Techs
Utilities
Safety and Security
Risk Management
IT/Communications
Contractors



How secure are my documents in the Cloud?

Security

- Firewalls
- Intrusion Detection
- Data Encryption
- Backup
- Tier IV Data Centers with Strong Physical Security
- Multi-factor authentication
- Single-Sign-On
- Disaster Recovery
- Difficult for cyber attacks



Scalability

- Cloud solutions can scale as your users and storage needs grow
- Storage is inexpensive in the cloud
- No need to purchase more physical hardware
- Cloud solutions allow you to add users as needed

Overall

User Type	Total Users
Internal ⓘ	214
External ⓘ	14
Total	228

Document Stats

Overall Totals

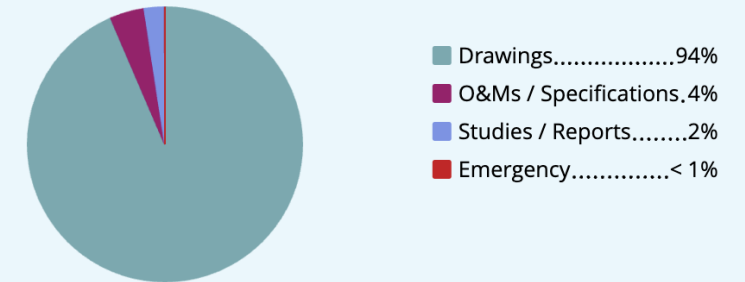
 **44,165**
Documents ⓘ

 **659**
Archived ⓘ

 **49,161**
Total ⓘ

 **232 GB**
Size ⓘ

Documents by Classification



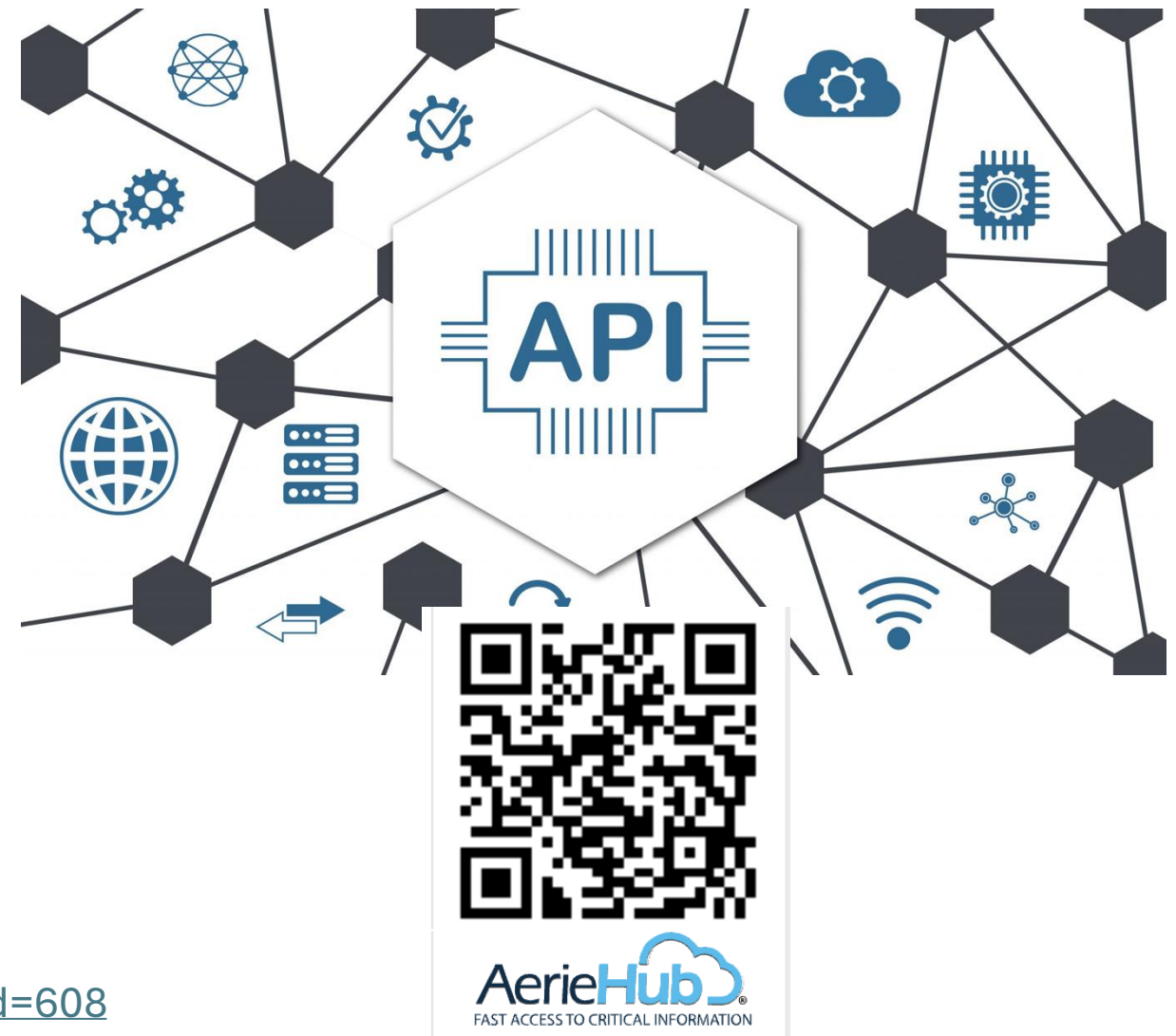
This Year ▼

Active Users ⓘ	Logins ⓘ	Emails ⓘ	Doc Views ⓘ
69	440	23	8,634
0	0	0	0
69	440	23	8,634

Integration with other Tools

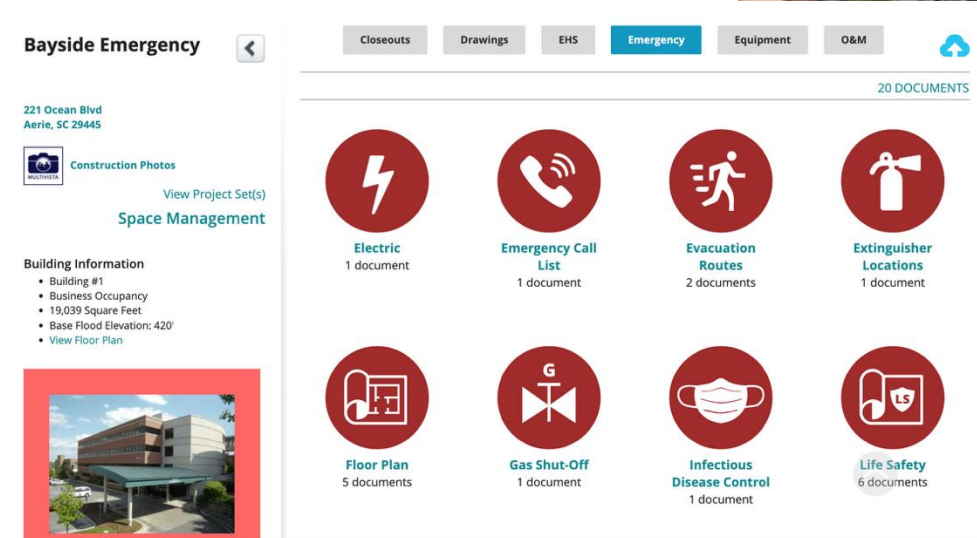
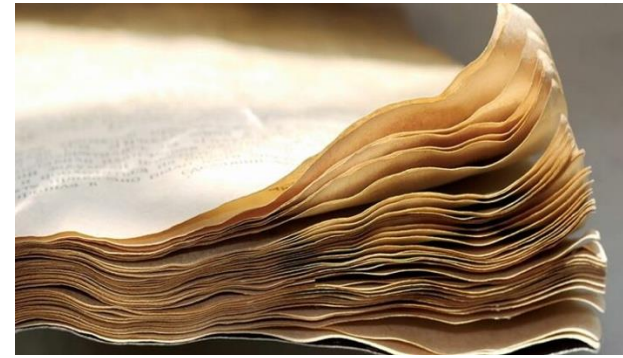
- API integrations
- Data sharing
- Linking to other tools
- Link to:
 - GIS systems
 - Asset Management Systems
 - Space Management Systems
- Hyperlink
- QR codes

<https://www.aeriehub.com/Map/Home?mapViewId=608>



Disaster Preparedness

- Automatic Backups and Redundancy
 - Protects against accidental deletion/technical failure
- Geographical Redundancy
 - Data is stored in multiple geographical locations to protect against regional outages
- Access to documents in emergency situations
 - Fires, floods, active shooters
 - Shut-off valves
 - Floor plans
 - Life safety plans
 - Share with first responders



Environmental Impacts

- Major reductions in paper use
- More efficient energy consumption
- Less physical travel to retrieve the documents
- Less Office Space Needed
- More Efficient Workflows
- Documents are born digital
 - Digital Signatures
 - Revit
 - DWG

Cloud sustainability improves further when using providers powered by renewable energy.



Intangible & Long-Term Benefits of DMS

1. Institutional Knowledge Preservation
2. Improved Decision-Making
3. Enhanced Student & Staff Experience
4. Risk Reduction
5. Operational Continuity
6. Academic Support & Campus Reputation
7. Document Security & Control
8. Environmental Sustainability

How to make the business case?

1. **Clearly identify the problem** the software solution solve
 - Include testimonials and pain points
2. **Show the benefits** of adopting the software or new tech
 - Use examples
3. **Describe the software** and show how it will help alleviate the pain points and benefit the organization
4. **Demonstrate the ROI**
 - The cost to do nothing is higher than the cost of the software
 - How quick is the return

Return on Investment Analysis- Document Management System

$$\text{ROI in Months} = \frac{\text{Cost of DMS}}{\text{Monthly Net Benefit}}$$

Cost of DMS = Total implementation cost (software, setup, training, etc.)

Monthly Net Benefit = (Monthly cost savings + additional monthly revenue)

Cost Calculator for an Average Document Management Project

YEAR ONE

Description	Price
File Review, Indexing, Scanning	\$150,000
Software Subscription	\$50,000
Implementation & Setup	\$30,000
Training/Library Management	\$50,000
TOTAL	\$280,000

YEAR TWO+

Description	Price
Software Subscription	\$50,000
Training/Library Management	\$50,000
TOTAL	\$100,000



Benefits Calculator

Description	Savings
Time Savings 150 employees x 0.66/min (\$40/hr) x 5 min X 3 documents/week	\$77,220
Operational Efficiency- Maintenance Downtime Reduction (\$6000/month)	\$72,000
Cost Avoidance- Avoided Rework/Contractor Fees for Lack of Documentation (20 jobs x \$2K)	\$40,000
Cost Avoidance- Physical Storage Savings (150 sq ft x \$40/sq ft)	\$6,000
Regulatory/Compliance/Insurance Benefits- (Easier Audits, Lower insurance Rates, Faster response times)	\$2,000
TOTAL	\$197,220

Monthly
Benefit-
\$16,435



$$\text{ROI in Months} = \frac{\text{Cost of DMS}}{\text{Monthly Net Benefit}}$$

Year 1

$$\text{ROI} = \frac{\$280,000}{\$16,435} = 17 \text{ months}$$

Year 2+

$$\text{ROI} = \frac{\$100,000}{\$16,435} = 6 \text{ months}$$

DMS- ROI Analysis Conclusion

- The initial project pays for itself in 17 months
- It pays for itself in 6 months thereafter, **saving \$98,610 yearly**

Questions?

Thank you for your time!

Copy of the Presentation:



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