

# Space, the Final Frontier



## Onguard as a Catalyst for Process Improvement

Jon Finke - July 2023

# Obligatory Site Information

[info.rpi.edu](http://info.rpi.edu) for more...

- Founded in 1824, Rensselaer Polytechnic Institute is America's first technological research university.
  - 5,823 resident undergraduate students
  - 1,164 resident graduate students
  - 471 faculty
  - 1462 staff
- Main Campus
  - 49 Academic Building
  - 41 Service Buildings
  - 15 Administrative Buildings
  - 72 Student Residence Buildings

# OnGuard Deployment

## Numbers you can't find on the web

- Timeline
  - Online in 2002
  - IdM Feed via direct Oracle Table access ( interface tables with triggers)
    - People and some access level assignments (Dorms, "Community", etc)
    - Latency issues due to load methods
  - Start Migration to OpenAccess API May 2020
  - Migrate database from Oracle to SQL Server, summer 2022
- OnGuard Stats
  - Panels - 153
  - Readers 1,053
  - Access Levels - 1,800
  - Badges - 22,948 (includes parking transponders)
  - CardHolders 41,338
  - Access Level Assignments - 103,121
  - Just one segment

# ARTS

## Attendance Recording And Tracking

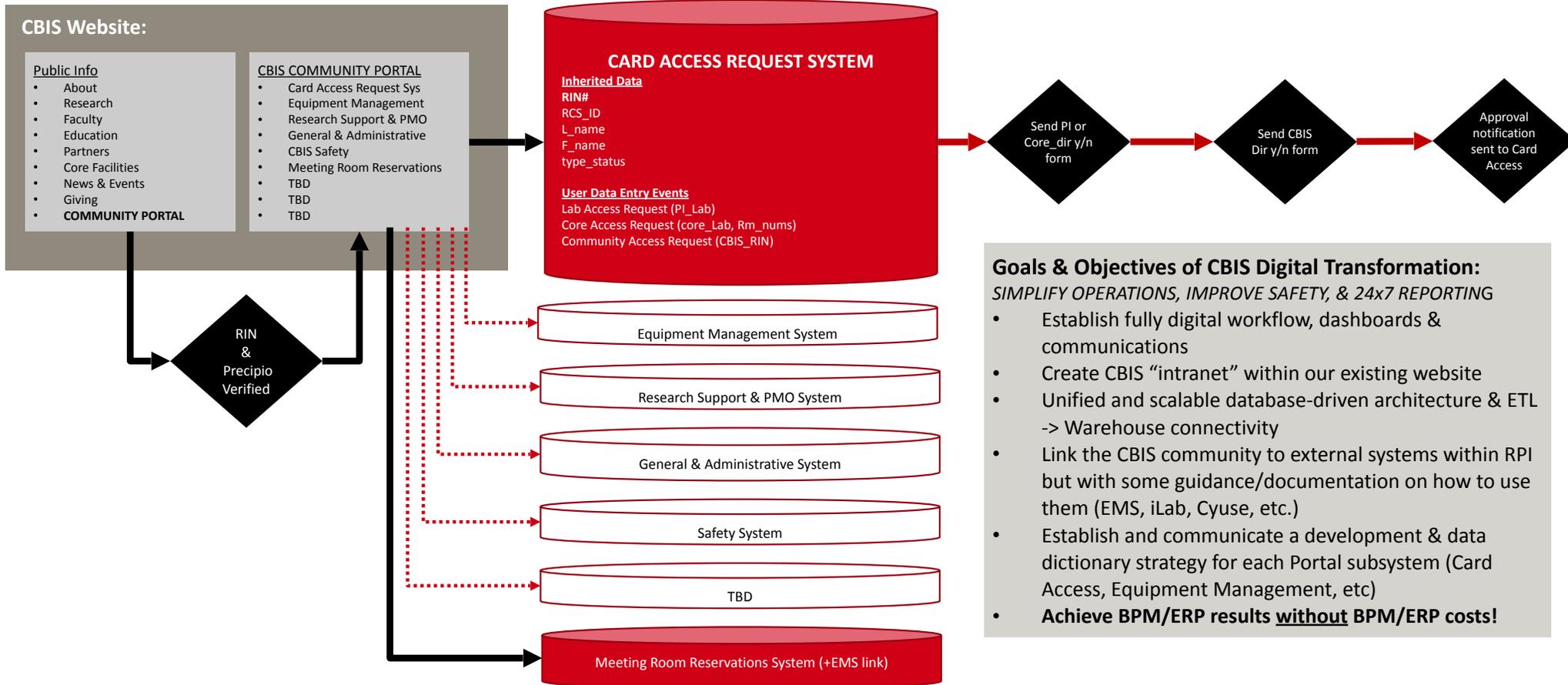
- Web based
- Per department - around 25 at present
- Entry
  - RFIDeas Prox Reader (around 100 currently deployed)
  - Manual Entry
  - QR code
  - Mag Stripe Readers
- Access Control List
  - Group membership (or not)
  - Demographics
- Logging and Reporting

# COVID Response

## Campus Access Requirements (2021-2022)

- High Frequency (ARTS Tool Only)
  - Symptom Reporting
- Medium Frequency (**Daily OnGuard Feed**)
  - Current on Testing (on Campus Sample Lab)
- Low Frequency
  - **Completed Return To Campus Training (SkillSoft)**
  - Proper Class Designation (not in “away” semester)
  - Current Contact Information (contact tracing)

# OVERVIEW OF CBIS DIGITAL TRANSFORMATION PROJECT



**Goals & Objectives of CBIS Digital Transformation:**  
SIMPLIFY OPERATIONS, IMPROVE SAFETY, & 24x7 REPORTING

- Establish fully digital workflow, dashboards & communications
- Create CBIS “intranet” within our existing website
- Unified and scalable database-driven architecture & ETL -> Warehouse connectivity
- Link the CBIS community to external systems within RPI but with some guidance/documentation on how to use them (EMS, iLab, Cyuse, etc.)
- Establish and communicate a development & data dictionary strategy for each Portal subsystem (Card Access, Equipment Management, etc)
- Achieve BPM/ERP results without BPM/ERP costs!**

# Center for Biotechnology and Interdisciplinary Studies (CBIS)

## Card Access Request System

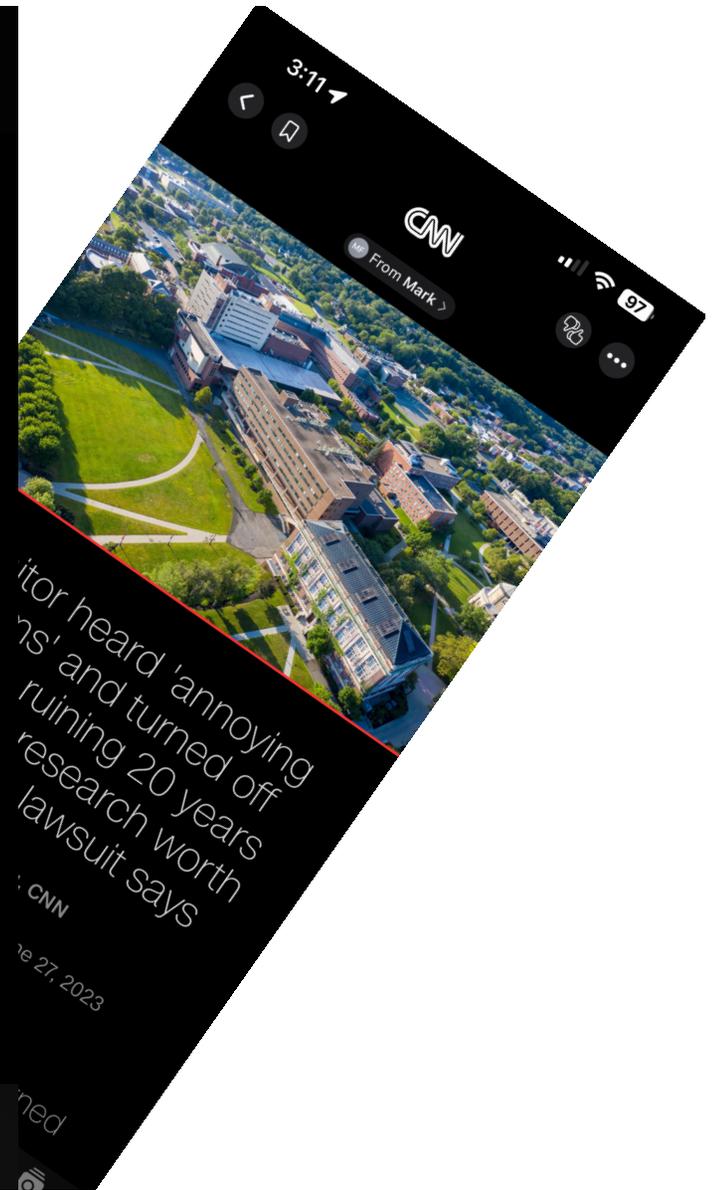
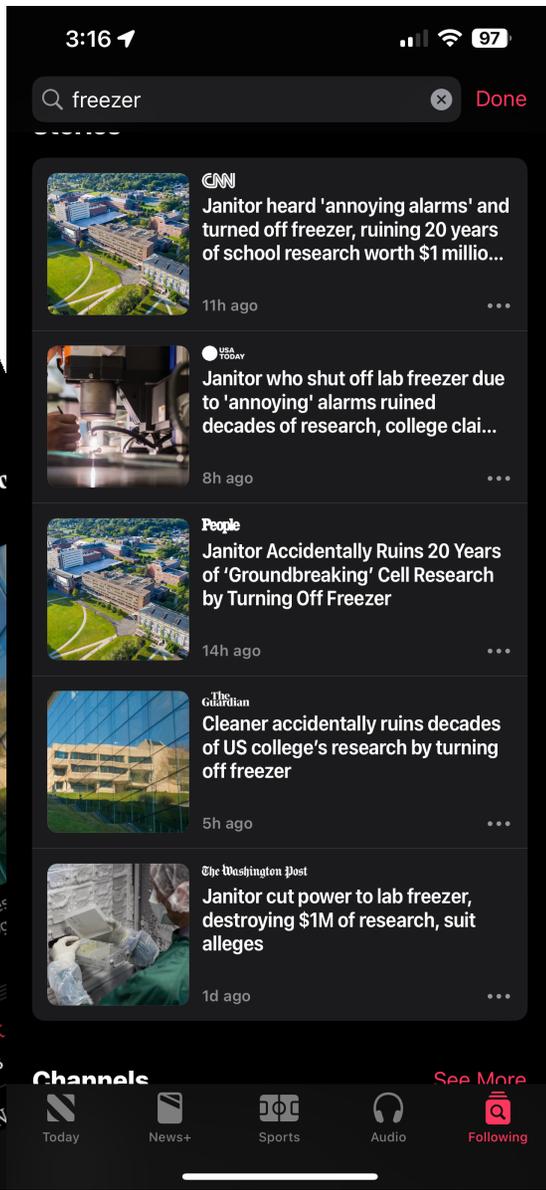
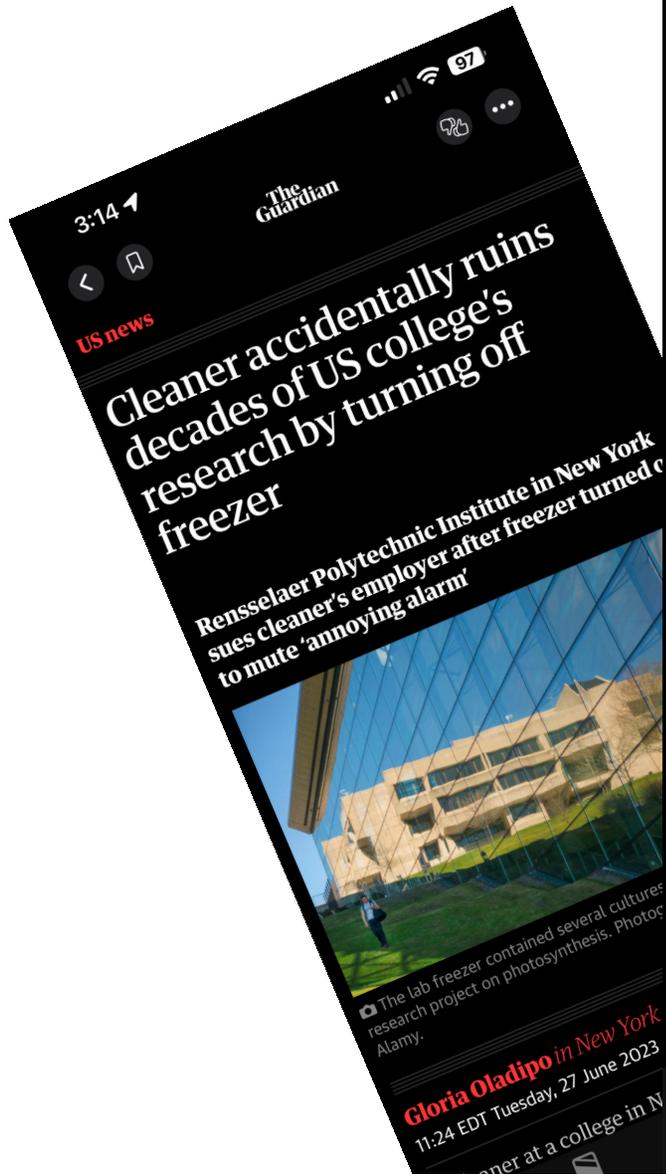
- Training Required to request access (from Skillsoft/Percipio)
- Approval by Primary Investigator for “their space”
- Approval by Building Coordinator
- Building app to explore access levels, readers and assignment
  - Access levels with 50+ readers
  - Readers (Rooms) with 50+ levels assigned
    - Close to 2000 Badges!

# Sample Access Level

Reader Name	Panel Id	Reader Id	Timezone	Last Changed
BT Corridor 2349	66	2	24 Hours Biotech	13-Jul-22
BT Stairway 2-ST-3	66	3	24 Hours Biotech	13-Jul-22
BT Corridor 2309	66	7	24 Hours Biotech	13-Jul-22
BT Corridor 2220	66	11	24 Hours Biotech	13-Jul-22
BT Corridor 2200-A	66	13	24 Hours Biotech	13-Jul-22
BT Atrium South Entrance 2000-A	66	14	24 Hours Biotech	13-Jul-22
BT Corridor 2300A Near Terrace	66	15	24 Hours Biotech	13-Jul-22
BT Rm. 2319 - Lab Research	66	18	24 Hours Biotech	13-Jul-22
BT Rm. 2327 - Una Acad Lab Res	66	22	24 Hours Biotech	13-Jul-22
BT Rm. 2341 - Lab Res. Vestibule	66	24	24 Hours Biotech	13-Jul-22
BT Rm. 2348 East - Lab Research	66	25	24 Hours Biotech	13-Jul-22
BT Rm. 2348 West - Lab Research	66	26	24 Hours Biotech	13-Jul-22
BT Corridor 2300A Near Atrium	66	28	24 Hours Biotech	13-Jul-22
BT 2nd Fl. Ox Corridor	66	29	24 Hours Biotech	13-Jul-22
BT Loading Dock 2430-A Into Corr	67	3	24 Hours Biotech	13-Jul-22
BT Loading Dock 2430-B Ext Door	67	4	24 Hours Biotech	13-Jul-22
BT Stairway 2-ST-2	67	5	24 Hours Biotech	13-Jul-22
BT Stairway 2-ST-2A - Exterior	67	6	24 Hours Biotech	13-Jul-22
BT Stairway 2-ST-1	67	7	24 Hours Biotech	13-Jul-22
BT 15th Street Entrance	67	8	24 Hours Biotech	13-Jul-22
BT Corridor 2443	67	9	24 Hours Biotech	13-Jul-22
BT Corridor 2200-B	67	10	24 Hours Biotech	13-Jul-22
BT Atrium North Entrance 2000-D	67	11	24 Hours Biotech	13-Jul-22
BT Rm. 2434-A - Central Storage	67	13	24 Hours Biotech	13-Jul-22
BT Rm. 2434-B - Central Storage	67	14	24 Hours Biotech	13-Jul-22
BT ATRIUM 1ST FLR ENTRANCE 1100	68	2	24 Hours Biotech	13-Jul-22
BT Stairway 1-ST-8	68	3	24 Hours Biotech	13-Jul-22
BT Corridor 1300 West	68	7	24 Hours Biotech	13-Jul-22
BT Stairway 1-ST-3A	68	15	24 Hours Biotech	13-Jul-22
BT Stairway 1-ST-3B near Terrace	68	16	24 Hours Biotech	13-Jul-22
BT Rm. 1019 - Microbiology Core	69	3	24 Hours Biotech	13-Jul-22
BT Elevator - Freight - Normal	69	5	Not Used	13-Jul-22
BT Rm. 1025 - Microbiology Core	69	8	24 Hours Biotech	13-Jul-22
BT Corridor 1406	69	11	24 Hours Biotech	13-Jul-22
BT Corridor 1300 East	69	12	24 Hours Biotech	13-Jul-22
BT Stairway 4-ST-1	74	2	24 Hours Biotech	13-Jul-22
BT Stairway 4-ST-2	74	3	24 Hours Biotech	13-Jul-22

# Sample Reader Report

Access Level Id	Access Level Name	Badges	Timezone
176	Phys Plant - All Bldgs (exc RCF CCNI Troy) 24/7	229	24 Hour
222	Biotech Contractors	225	4:30 am to 7 pm all week
989	Public Safety Personnel - no 2005	151	24 Hour
107	Public Safety Personnel	135	24 Hour
226	Biotech Core Director/Researcher/Bioart	90	24 Hours Biotech
1879	E&SS - Academic and Residential 5-5 all week	71	5 am to 5 pm all week
223	E&SS - Biotech 24/hrs	69	24 Hours Biotech
478	Biotech - Administrative Staff	57	24 Hour
317	Biotech - Dordick - Staff	55	24 Hours Biotech
218	Biotech All except Special Labs	47	24 Hours Biotech
1064	Biotech - Hurley - Staff	46	24 Hours Biotech
1075	Biotech - Royer - Staff	46	24 Hours Biotech
332	Biotech - Wang, C - Staff	42	24 Hours Biotech
310	Biotech - Barquera - Staff	39	24 Hours Biotech
410	ITI - Biotech	35	24 Hour
315	Biotech - Cramer - Staff	35	24 Hours Biotech
63	Ambulance	34	24 Hour
676	Phys Plant - All Bldgs 6 to 6 weekdays Exc Trb,CCNI,RCF	34	6 am to 7 pm Weekdays
1524	Public Safety (No BRC/Res/Troy) - VIPs / Others	34	24 Hour
647	Biotech - Morgan - Shared Core Facility Lab - 2319	30	24 Hours Biotech
314	Biotech - Colon - Staff	30	24 Hours Biotech
328	Public Safety (No BRC or 2005) - VIPs / Other Personnel	29	24 Hour
1190	Biotech - Relyea - Staff	29	24 Hours Biotech
48	E&SS - All 5a to 6p except (RCF, Library, Troy)	28	5 am to 6 pm all week
1704	Biotech - Blaber - Staff	26	24 Hours Biotech
259	Biotech Level 2	25	24 Hours Biotech
1738	Biotech - Montelione - Staff	22	24 Hours Biotech
1412	MultiMedia - All Bldgs exc CCNI Troy EMPAC VIC SVC	20	24 Hour
621	Biotech All except BRC	20	24 Hour
832	Biotech - Wan - Staff	19	24 Hours Biotech
253	Biotech Moving Services 8 am-4:30 pm	19	8a-6p weekend only
350	Biotech - McCallum - NMR Technical Management	19	24 Hours Biotech



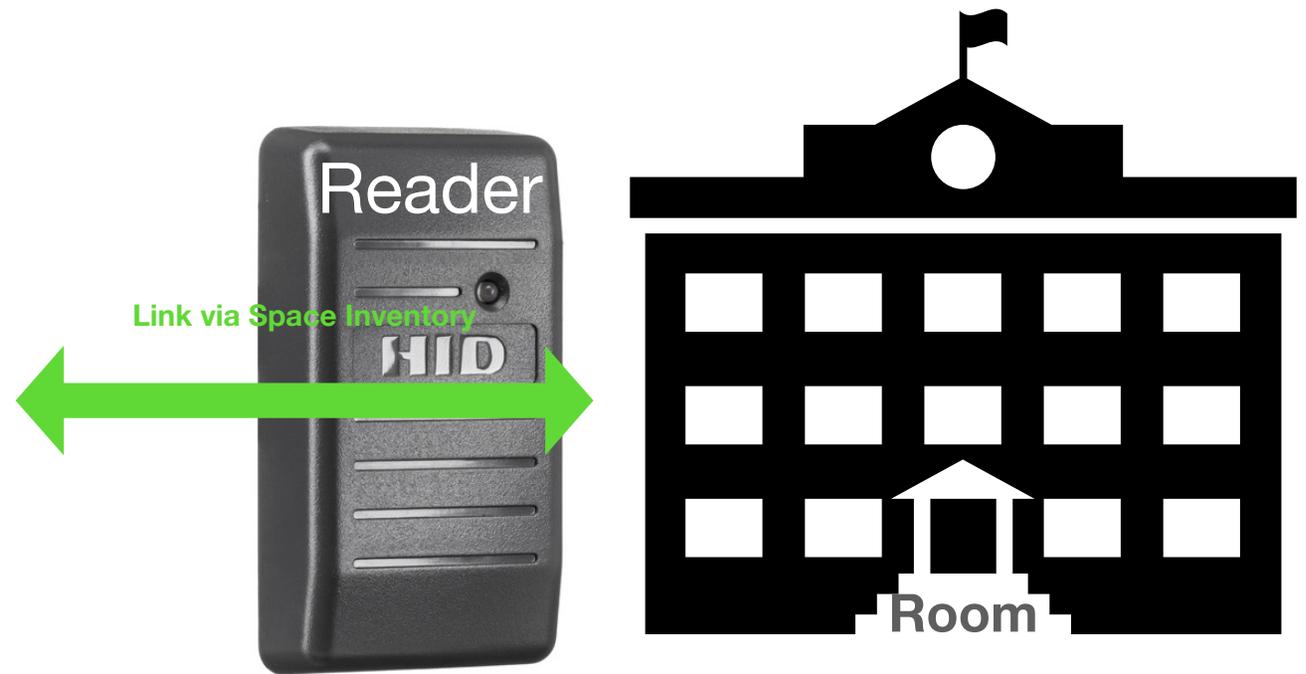
# OnGuard Admin Tool

## Enhancements - Under Development

- Panel, Reader, Access Level reports
  - Cross linked, include badge counts/reports
- Create Integrated ARTS Event
  - Access Level xxx Actual Groups
  - Reader Events mapped to “event”
  - Request Access (Group) workflow

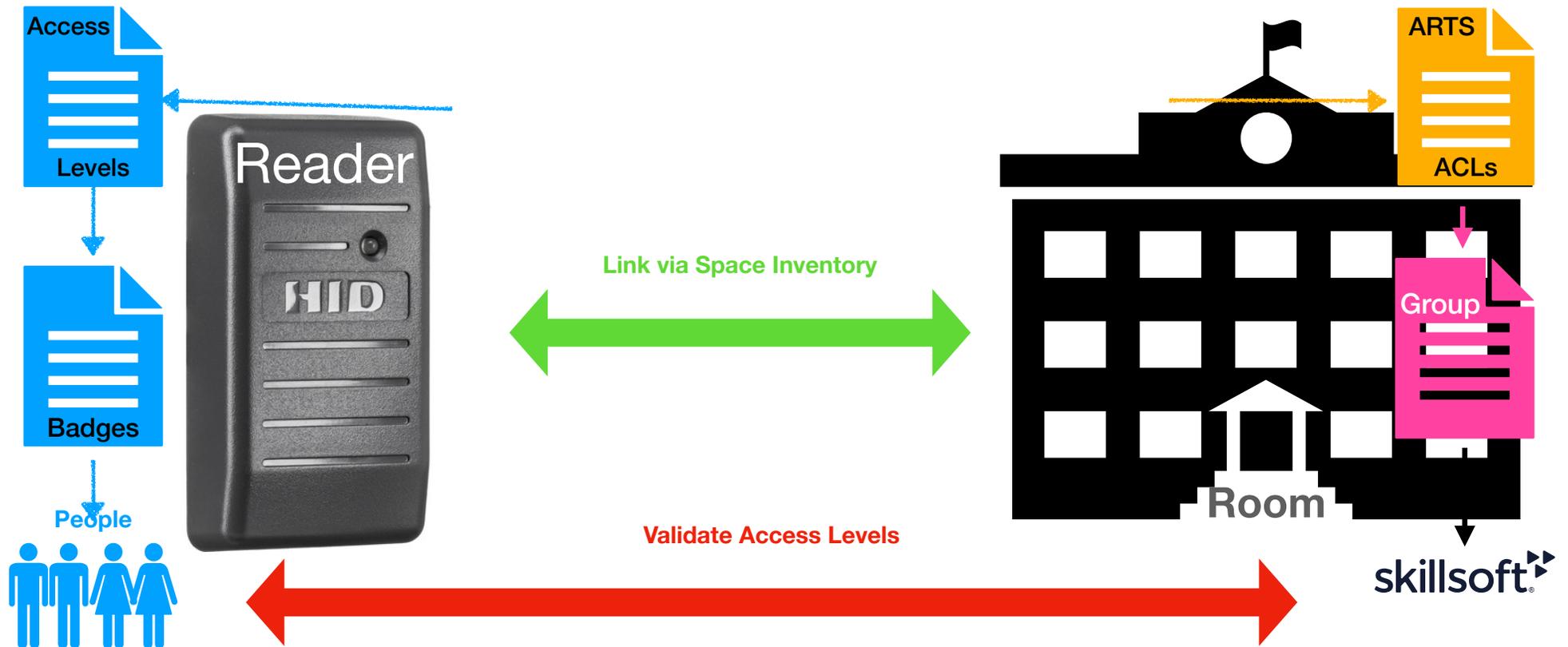
# Time for a Data Model

Lets assemble some building blocks.



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# Systems (Tables) involved

- Insite (Space Management, Room Type, Primary Occupant)
- OnGuard (Access Readers, Access Panels, Level/Reader Assignments, Level/Badge assignments)
- Skillsoft/Percepio (Training)
- Hostmaster (System Type, Location, Network - Panels)
- ARTS (Access Control Lists)
- Groups

# Policy

## Access Levels

- Validation of Access levels
  - Before granting - part of the request process
  - Static Analysis - validate the existing systems
  - Triggered by event logs
- Access Level Type
  - Assigned Location
  - Role Based
  - Emergency Role Base



# Lenel Ask

## Access Level

- Level Type
  - Named Access
  - Role Access
  - Exception Access
- Reports on Role and Exception Access
- Highlights, color for displays (admin, reports)
- Comments
- Alerts/Alarms when Exception access occurs
- Requirement check may be too complex for OnGuard

# Lenel Ask 2

## Access Level Assignment

- Assignment Type
  - Manual vs API feed
- External Key (to facilitate API updates)
- Comments - (allow API to give hints to system operators)

# Lenel Ask 3

## Readers

- Room
- Building (Site, Region)
- Location ID (requires Location and Building Validation table)
  - External Location ID (de-normalized or applied at export/API)
- Direction (Entry, Exit, Other)
- Access Classification Code
  - Used for reporting, alert triggers

# Lenel Ask 4

## Panels

- Building (useful in mapping Reader List of Values)
- Room (our facilities folks want to know where the panels are)
- Location ID - same as for readers
- External Key

# Short Term Projects

## Infrastructure

- Map Readers to Rooms (and buildings) (new db table)
- Map access requirements (ARTS ACL) to “sensitive” rooms (new db table)
- Identify and assign Building Coordinators (for tool access control)
- Start Static Analysis of access levels

# Short Term Projects cont

## New Tools

- Access Request Tool - in beta test
  - Precheck access requirements
  - Multi Stage approval workflow
- HASP - Hazard Assessment and Signage Program - Identifying Requirements
  - Identify PI and secondary contacts for each room
  - Identify hazards in room - standard format for door sign
  - HASP Data available in Public Safety Mobile tool
  - QR code on door sign for expanded information
- ARTS - training checks (adding more labs, equipment specific )

	Name	Day Phone	Night Phone
PI-Supervisor	Chao Yang	518-276-4079	603-322-8730
First Alternate Contact	Katharine Dovidenko	518-276-8665	
Second Alternate Contact	Yechuan Chen	518-276-8034	

**Access Is Limited To:**

**VISITORS MUST BE UNDER ESCORT**  
Faculty Staff and Student



Low Compressed Gases hazard



Low Electrical hazard



Low Ionizing Radiation hazard



Low Laser hazard

Eye Protection & gloves required when handling hazardous chemicals  
Eye protection required when using laser  
Laboratory personnel have safety training  
EATING AND DRINKING ARE PROHIBITED IN THIS ROOM

**Information for Emergency Responder:**

In case of emergency, call Public Safety at 276-6611  
To update this sign, please fill out form at [HASP Assessment Form.pdf](#) | Powered by Box

and send to [EHS-RM@rpi.edu](mailto:EHS-RM@rpi.edu) Environmental Health and Safety



LABORATORY SAFETY TRAINING  
is **REQUIRED BEFORE**  
WORKING IN THIS FACILITY.

CONTACT the LAB MANAGER

FOR INSTRUCTIONS

- No Smoking
- No Food
- No Beverages

# Longer Term Projects

## Expand Space Database

- HASP Integration
- Room “owner”, occupants, department affiliation
- Fixture inventory
  - Fume Hood
  - Special HVAC/Power/Networking
  - Special plumbing - Sinks, Drains, Gas, Compressed Air, etc
- Chemical Inventory (link to purchasing)
- Equipment Inventory
- Hazard Inventory

# Longer Term Projects (cont)

- HASP expanding in Laboratory Safety
  - Key database for static access analysis
  - Automatic log analysis, alerts, reports on access
  - Additional room type - mechanical rooms, access corridors, etc)
- Apply Training requirements to application roles
- Contract Card Checkout/Management tool
- Disabled Occupants - Knox box, PSO Tool

# Questions, Comments

[finkej@rpi.edu](mailto:finkej@rpi.edu)

- Oracle Sites (Well, a DB and Developer)
  - Use APEX (included for free with Oracle)
  - Open Access API tools, functions
- Demo Links
  - [OnGuard Admin V2](#)
  - [Unified Task Approval](#)
  - [Demographic Map](#)