TURNER
FLEISCHER
Architecture, it’s who we are.

Ellen Bensky
B. A., Dip. Arch. Tech.(Hon)
CanBIM P1
Principal, CEO, CFO
29 Years with the studio

Steve Nonis
B.Arch., OAA, AANB, AAPEI, MRAIC, CanBIM P3, LEED AP
Principal
16 Years with the studio

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Who We Are

TURNER
FLEISCHER

45

Years of Experience

155

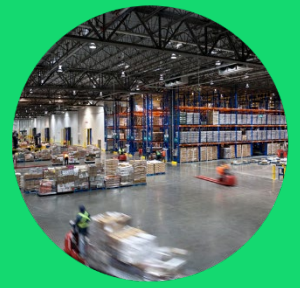
Talented Professionals

Architecture

Interior Design

Branding

Commercial



Industrial

Institutional

Hospitality

Mixed-Use

Residential

Retail

Planning

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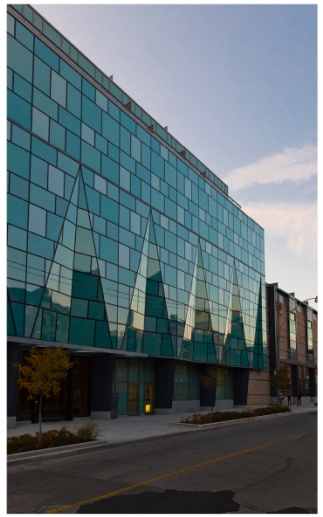

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Implementing a Digital Practice: Looking Beyond BIM Management

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Why Look Beyond BIM?

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Innovation is **Accelerating Exponentially**

Disruption is **Inevitable**

Digital Transformation is **Unavoidable**

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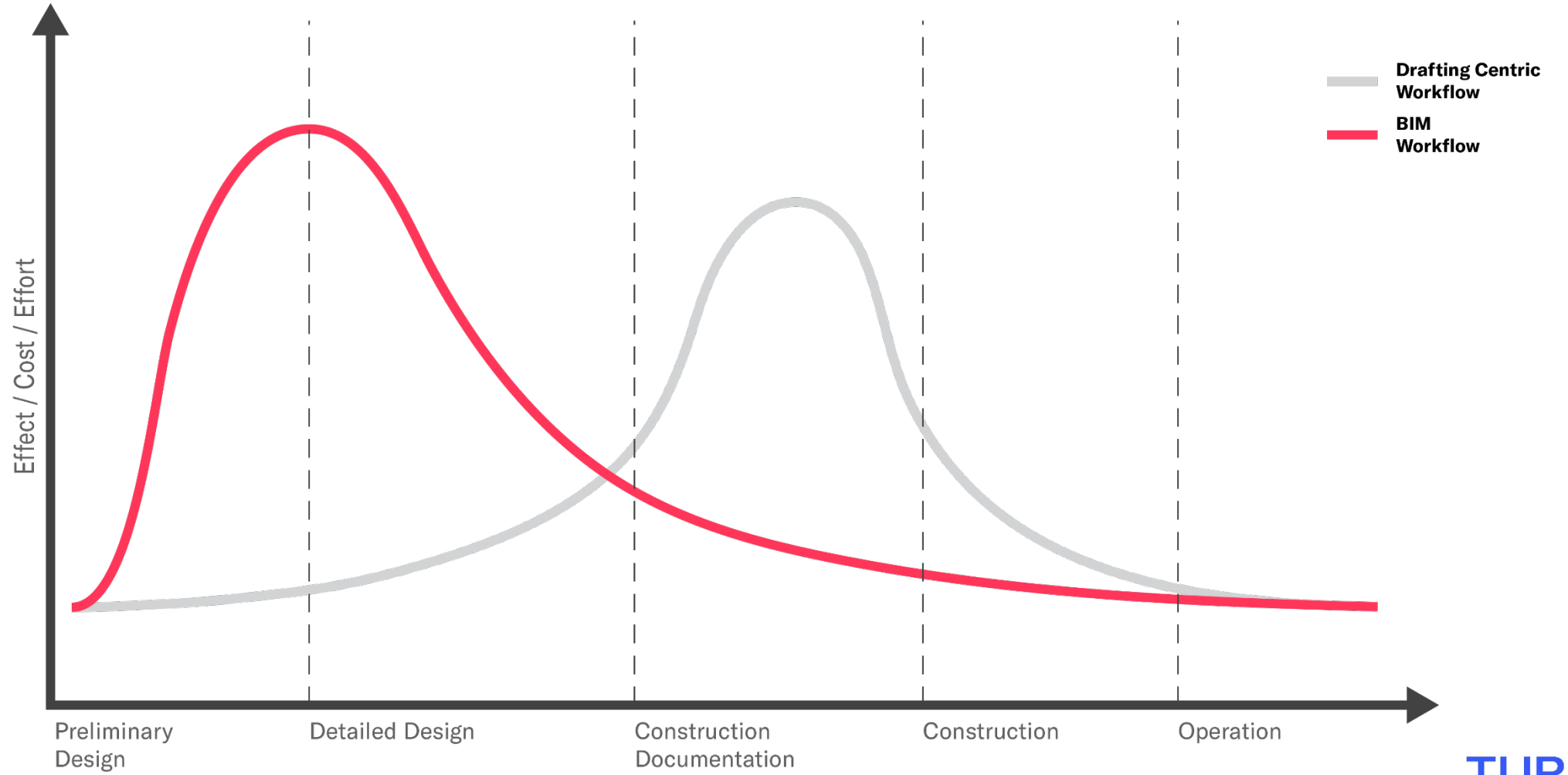
Why Look Beyond BIM?

Workflow Shift



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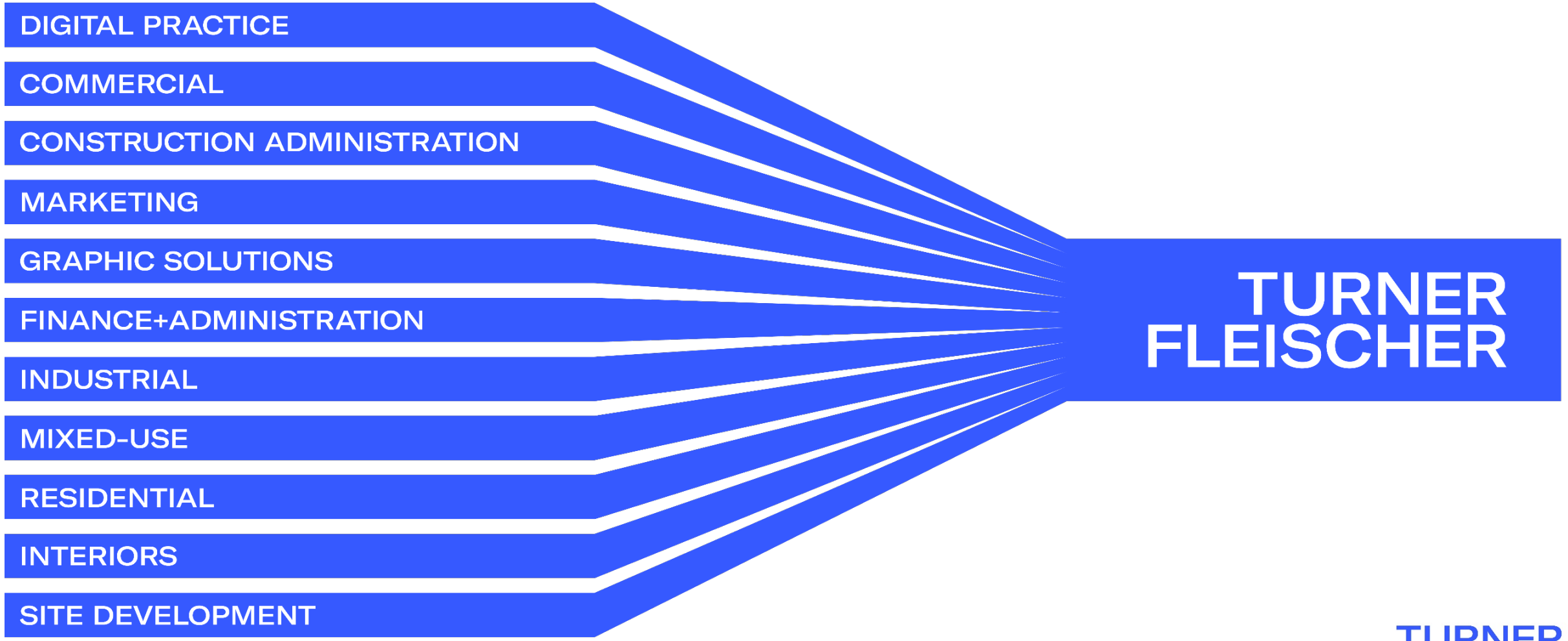
Why Look Beyond BIM?

Department to Studio Thinking



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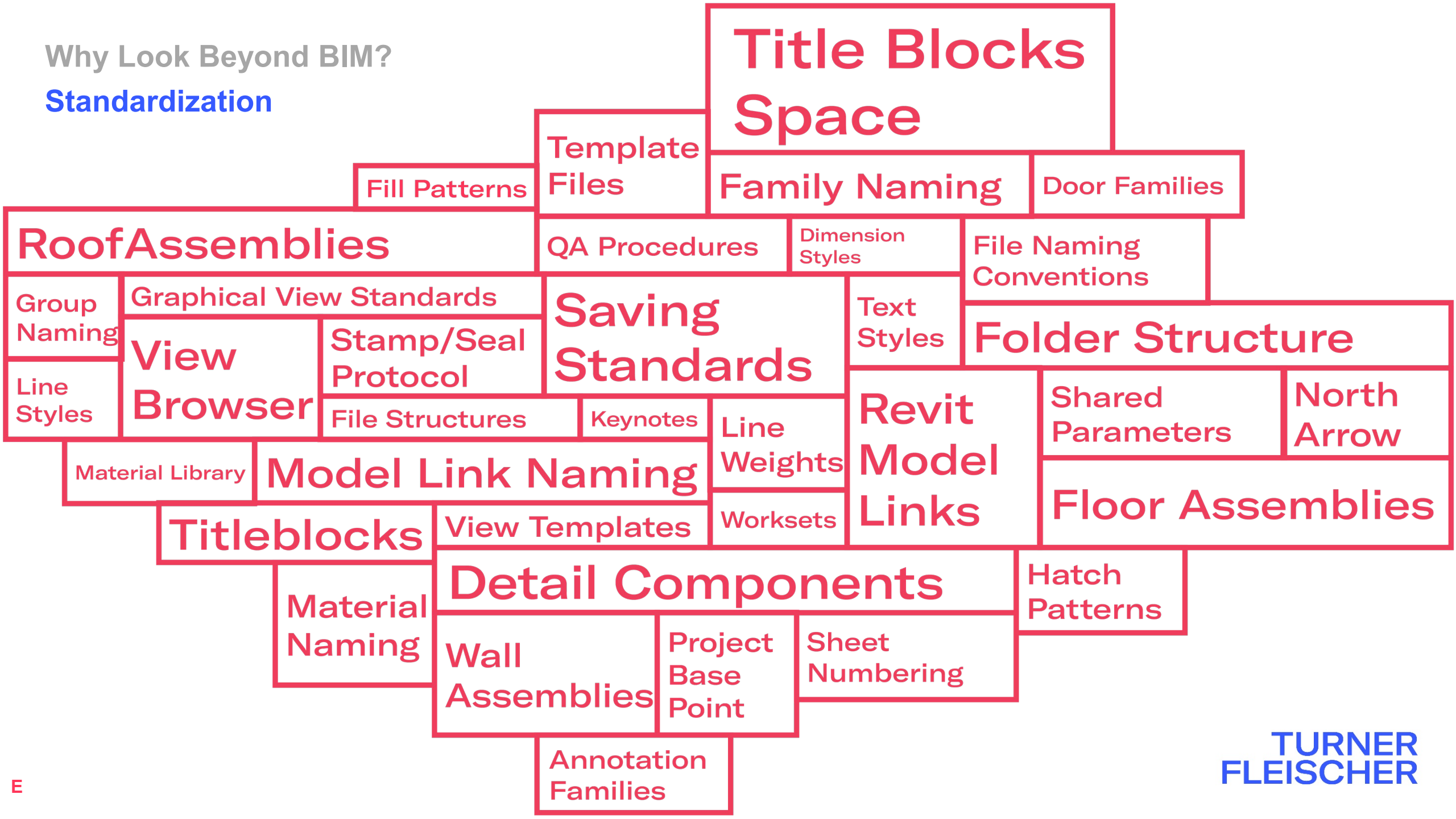
Why Look Beyond BIM?

Standardization



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How We Began

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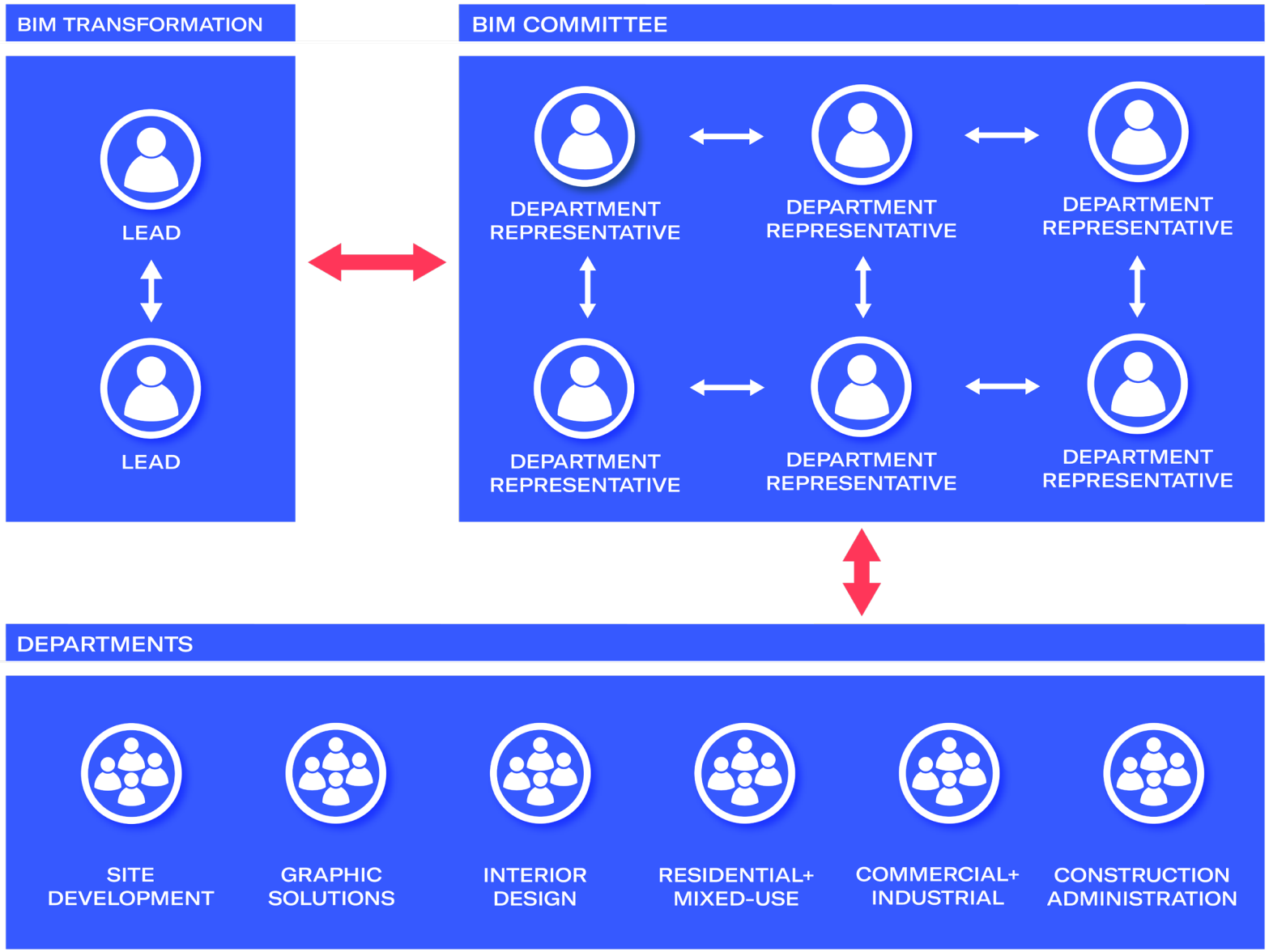
Realities of Digital Disruption

Revit – 2006, BIM Transformation – 2014



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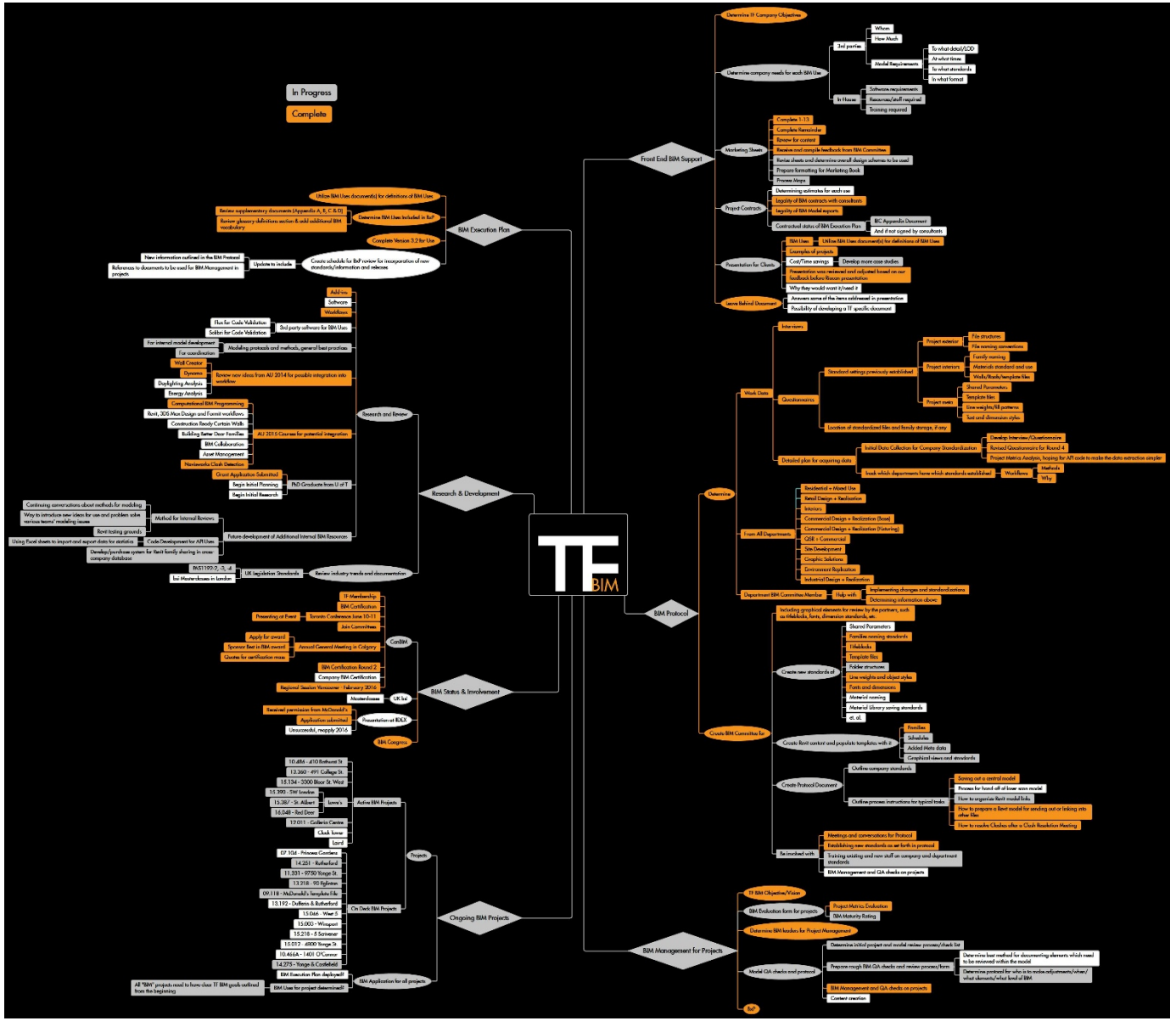
Realities of Digital Disruption

BIM Transformation Mind Map



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Realities of Digital Disruption

BIM Transformation Accomplishments

- Determined TF Company Objectives for BIM
- Utilized BIM Uses document(s) to create TF definitions
- Completed BIM Execution Plan Version 3.2 for office use
- Researched and reviewed add-ins
- Integrated Dynamo into workflow
- Utilized Navisworks for Clash Detection
- Submitted Grant application for research project
- Completed TF CanBIM Membership
- Completed CanBIM Staff Certification
- Established legality of BIM contracts with consultants
- Established legality of BIM Model exports
- Conducted Workflow Interviews with staff
- Established legality of BIM Model exports
- Conducted Workflow questionnaire for standard settings previously established
- Conducted initial data collection for company standardization
- Tracked existing department standards
- Created standard for Family naming
- Created standard for Titleblocks
- Created standard for Template files
- Created standard for Line weights and object styles
- Created standard for Fonts and dimensions

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Was This Working?

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No, It Wasn’t.

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Why?

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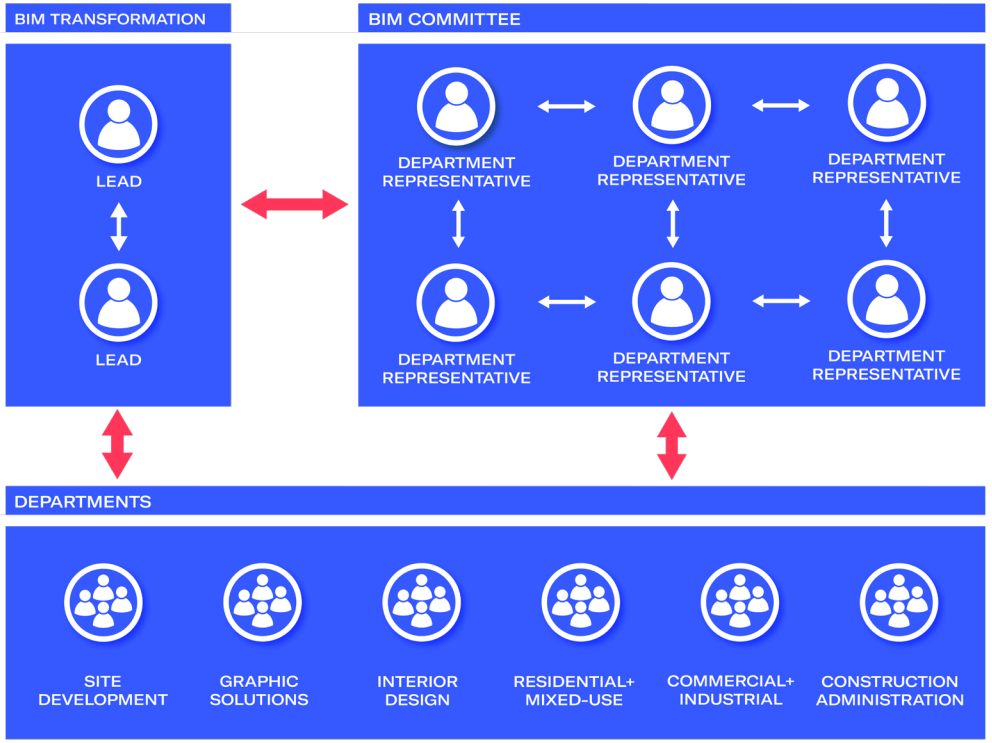
Why?



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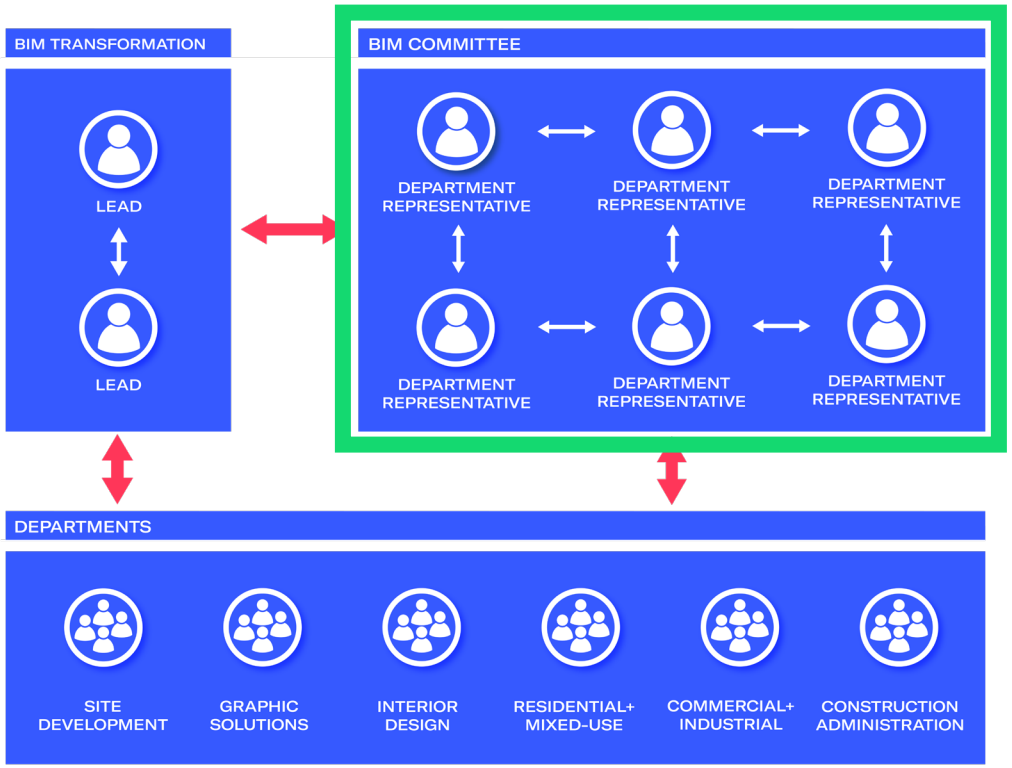
Why?



- Committee members were challenged to balance project demands and part-time BIM implementation responsibilities

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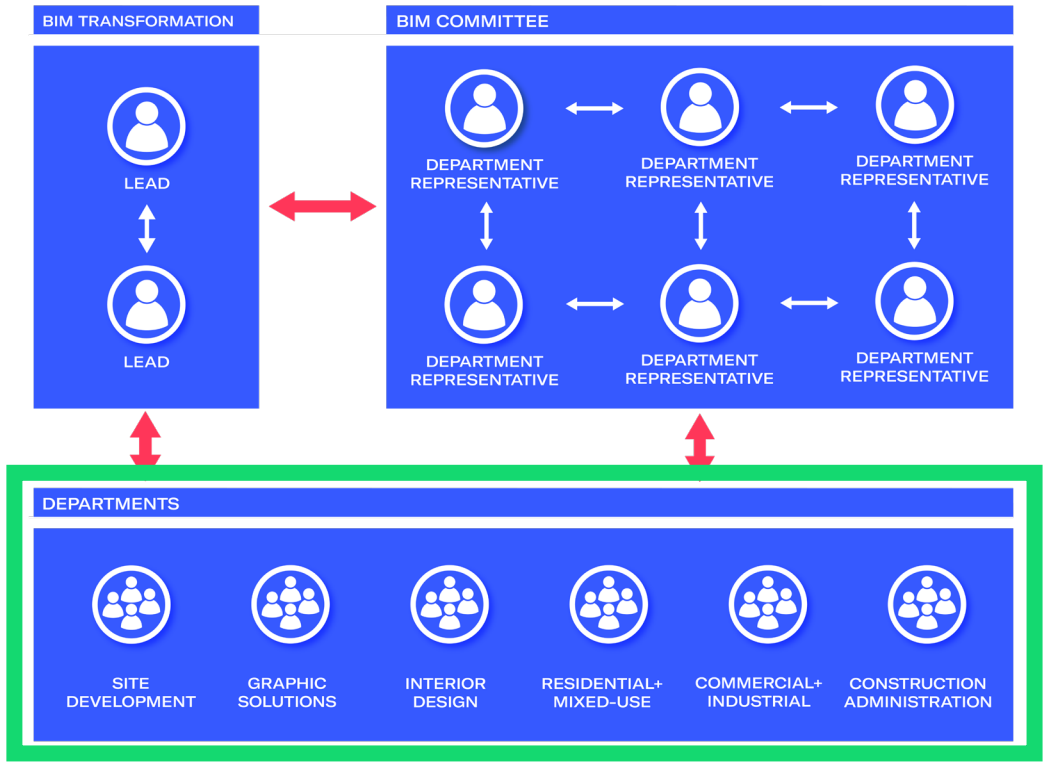
Why?



- Committee members were challenged to balance project demands and part-time BIM implementation responsibilities
- Departments were focused on their own needs, not studio-wide objectives

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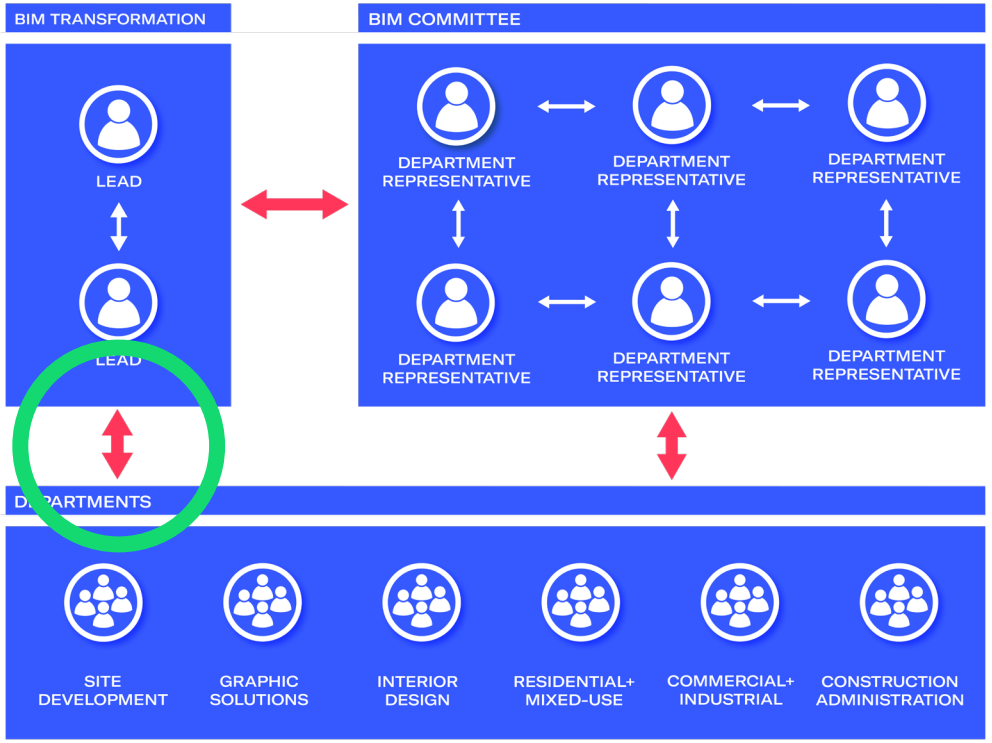
Why?



- Committee members were challenged to balance project demands and part-time BIM implementation responsibilities
- Departments were focused on their own needs, not studio-wide objectives
- No direct connection between BIM Leads and staff working on projects

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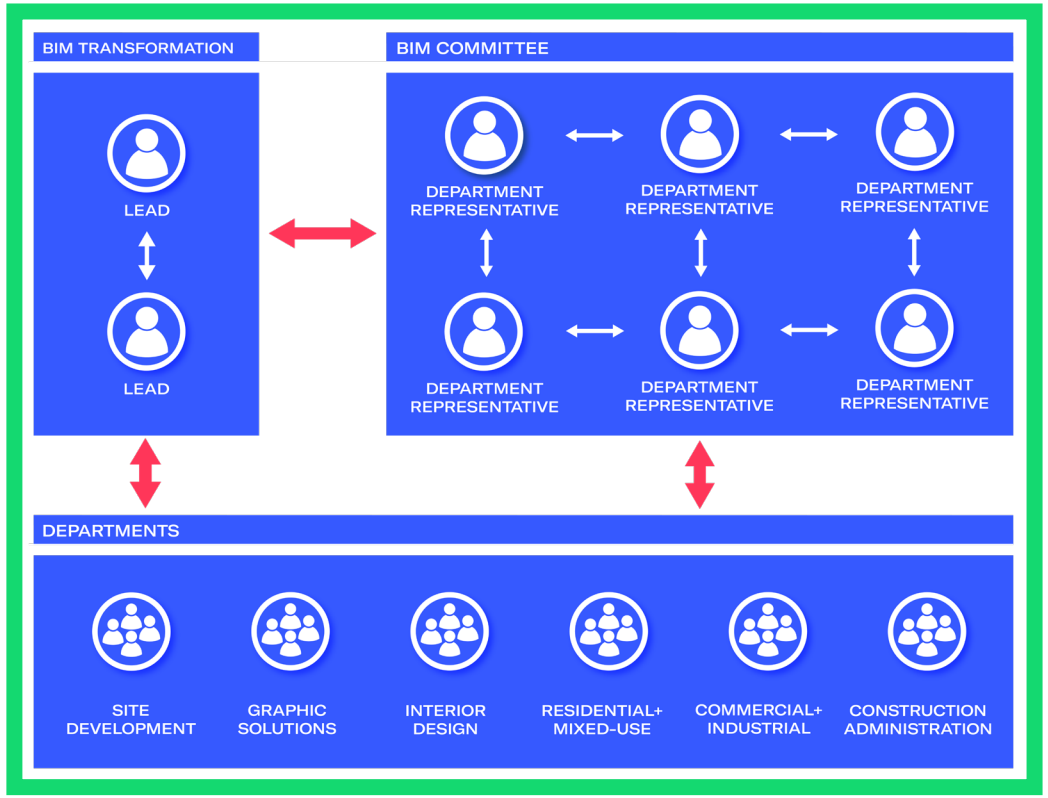
Why?



- Committee members were challenged to balance project demands and part-time BIM implementation responsibilities
- Departments were focused on their own needs, not studio-wide objectives
- No direct connection between BIM Leads and staff working on projects
- Technology was advancing faster than we were implementing it

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What Did We Do Next?

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DIGITAL PRACTICE

Saji

Kristian

Elizabeth

Rocky

Mauricio

Marco

Srujana

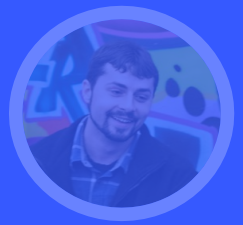
Mohsen

Ross

E

DIGITAL PRACTICE

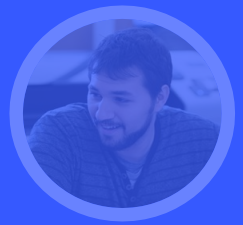
Saji


Kristian

Elizabeth

Rocky

Mauricio


Marco

Srujana

Mohsen

Ross

Manager

- 3 years at TF
- 3 years in DPD

Hired for DPD

E

DIGITAL PRACTICE

Saji

Kristian

Elizabeth

Rocky

Mauricio

Marco

Srujana

Mohsen

Ross

Lead Specialist

- **3 years at TF**
- **2 years in DPD**

Previous Department:

- **Residential + Mixed- Use**

E

DIGITAL PRACTICE

Saji

Kristian

Elizabeth

Rocky

Mauricio

Marco

Srujana

Mohsen

Ross

Lead Specialist

- **6 years at TF**
- **3 years in DPD**

Previous Department:

- **Interior Design**
- **BIM Transformation**

E

DIGITAL PRACTICE

Saji

Kristian

Elizabeth

Rocky

Mauricio

Marco

Srujana

Mohsen

Ross

Content Creation

- **5 years at TF**
- **1.5 years in DPD**

Previous Department:

- **Visualization**
- **Graphic Solutions**
- **Environment Replication**

E

DIGITAL PRACTICE

Saji

Kristian

Elizabeth

Rocky

Mauricio

Marco

Srujana

Mohsen

Ross

Content Creation

Starting December 9

E

DIGITAL PRACTICE

Saji

Kristian

Elizabeth

Rocky

Mauricio

Marco

Srujana

Mohsen

Ross

Knowledge Manager

- **5 years at TF**
- **1 year in DPD**

Previous Department:

- **Commercial + Industrial**

E

DIGITAL PRACTICE

Saji

Kristian

Elizabeth

Rocky

Mauricio

Marco

Srujana

Mohsen

Ross

Laser Scanning Specialist

- **1 year at TF**
- **1 year in DPD**

Hired for DPD

E

DIGITAL PRACTICE

Saji

Kristian

Elizabeth

Rocky

Mauricio

Marco

Srujana

Mohsen

Ross

Programmer

- **6 month at TF**
- **6 month in DPD**

8 month co-op

E

DIGITAL PRACTICE

Saji

Kristian

Elizabeth

Rocky

Mauricio

Marco

Srujana

Mohsen

Ross

3D Printing Spc

- **1 years at TF**
- **2 months in DPD**

Previous Department:

- **Residential + Mixed-use**

E

DIGITAL PRACTICE

Saji

Manager

Kristian

Lead Specialist

Elizabeth

Lead Specialist

Rocky

Content Creation

Mauricio

Content Creation

Marco

Knowledge Manager

Srujana

Laser Scanning

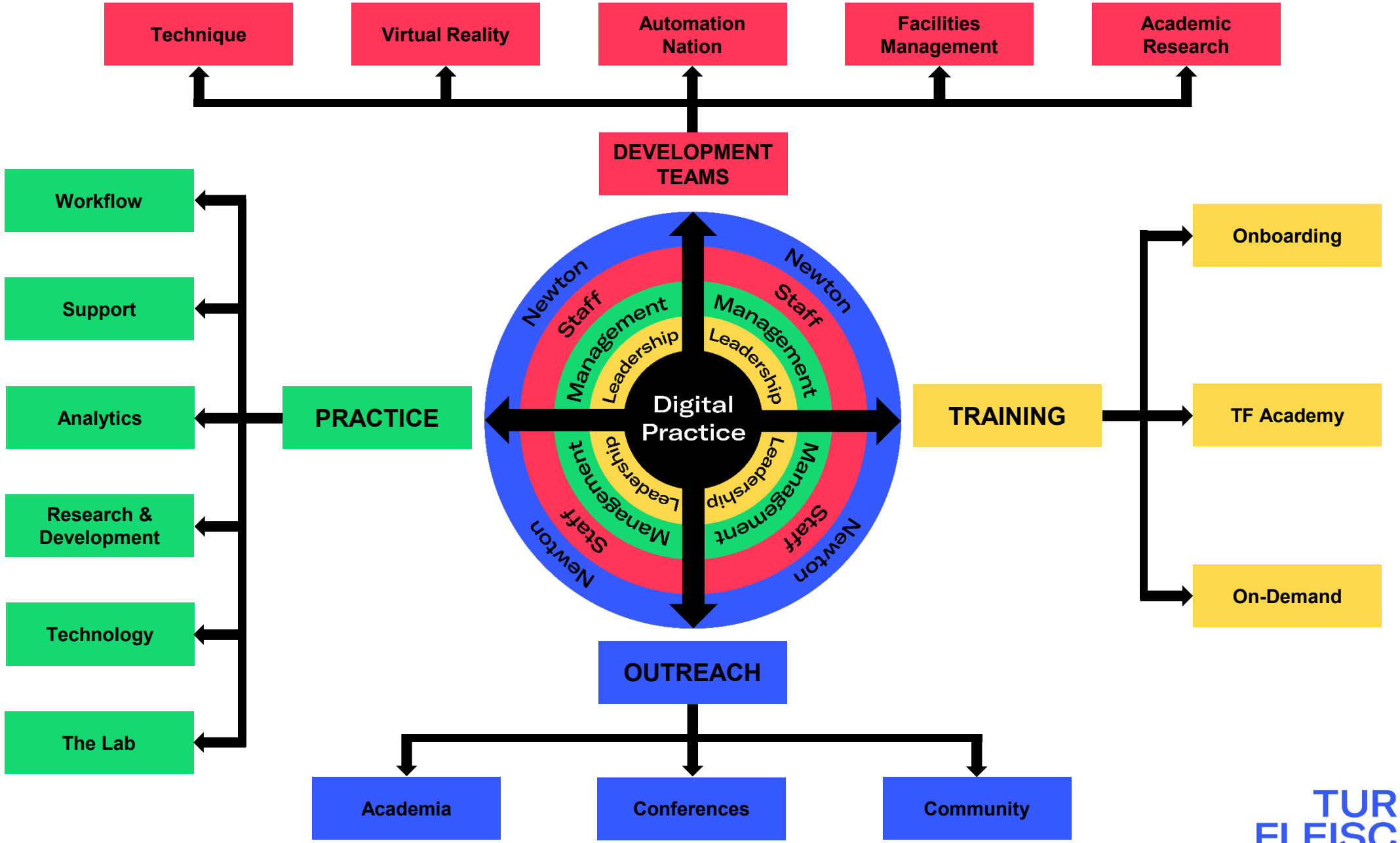
Mohsen

Programmer

Ross

3D Printing Spc

E



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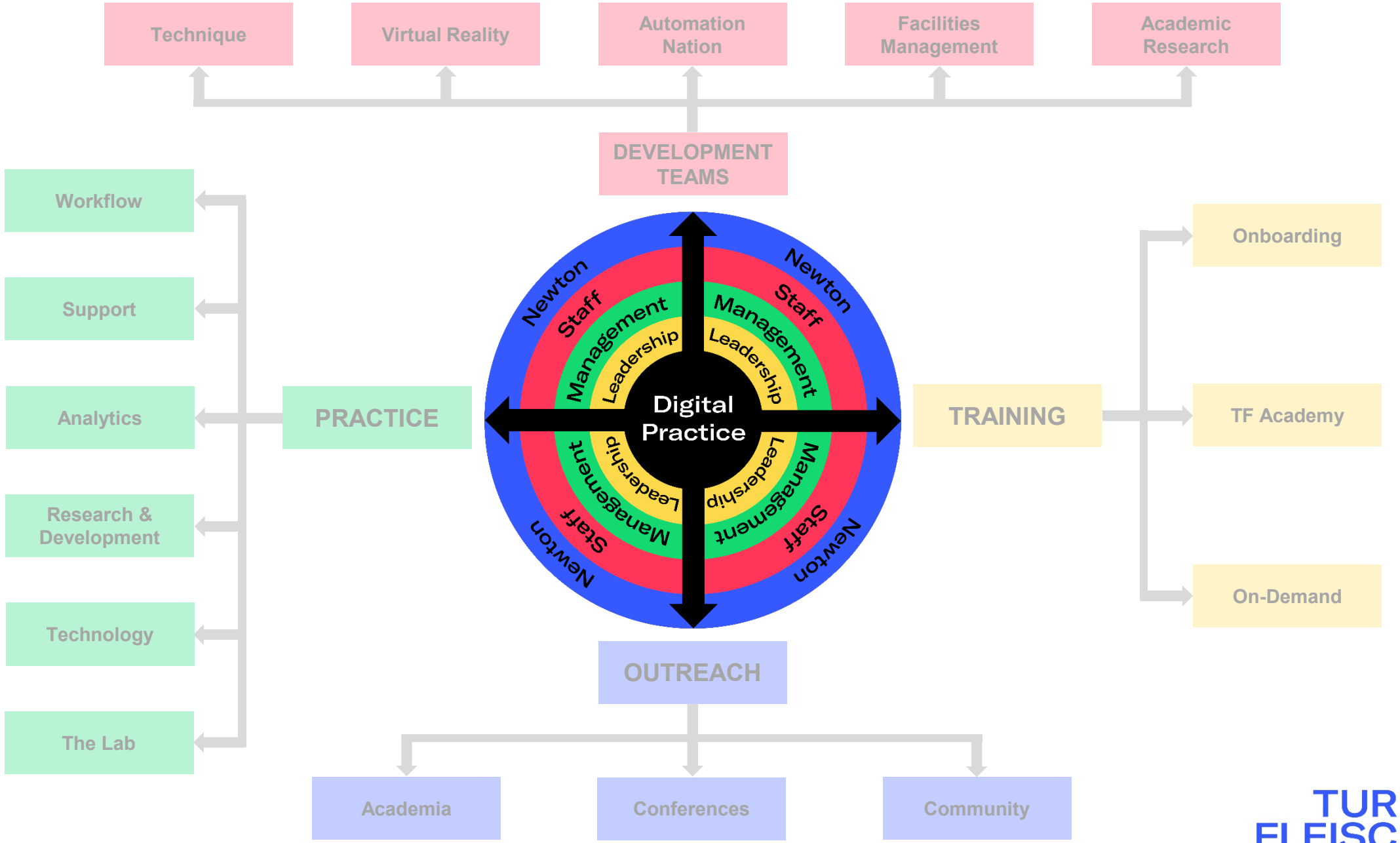

TURNER FLEISCHER

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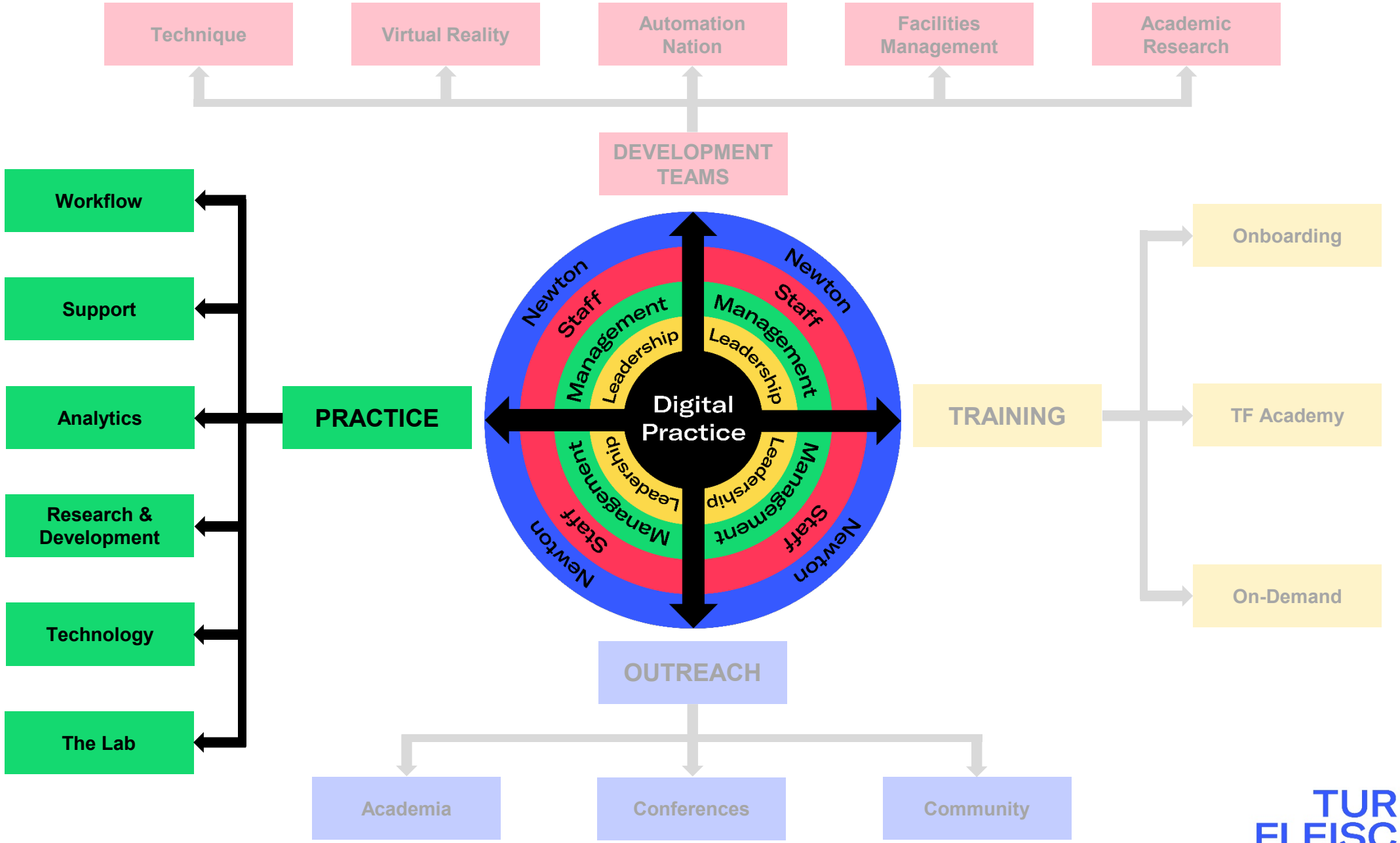

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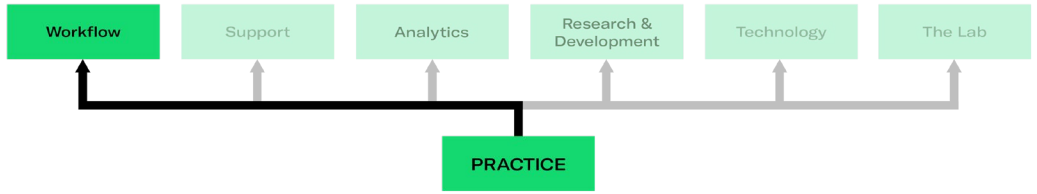
Practice

Workflow – BIM Implementation



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Turner Fleischer BIM Execution Plan

IPD/BIM EXECUTION PLAN V3.6

Project Name
2019-05-01

R0 - Preliminary

REVISION RECORD

REVISION	DATE	BY WHOM	COMMENTS

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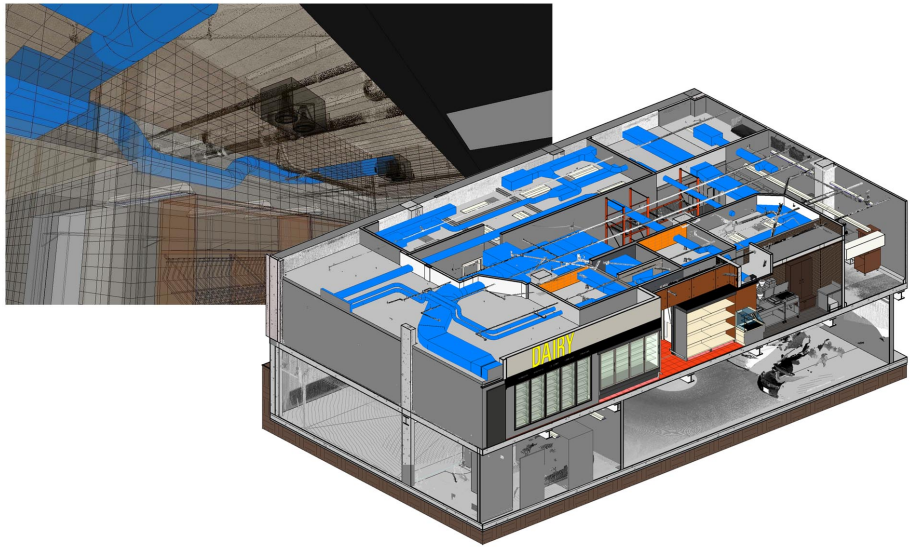

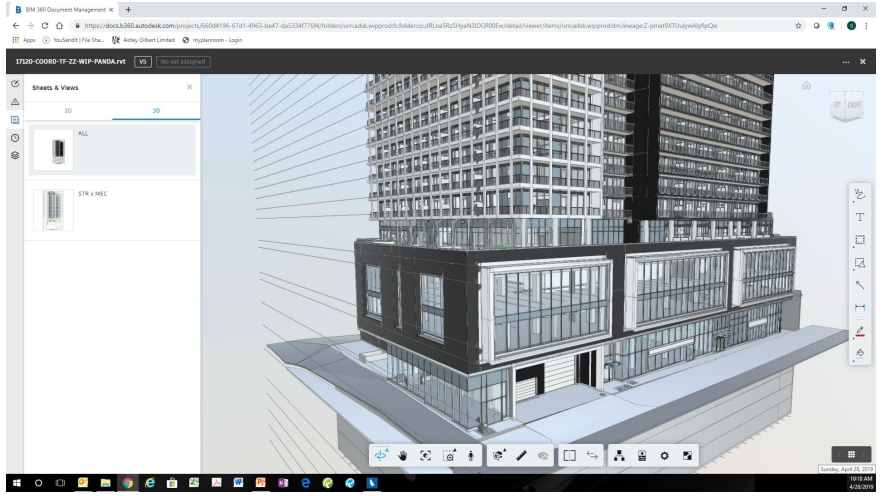

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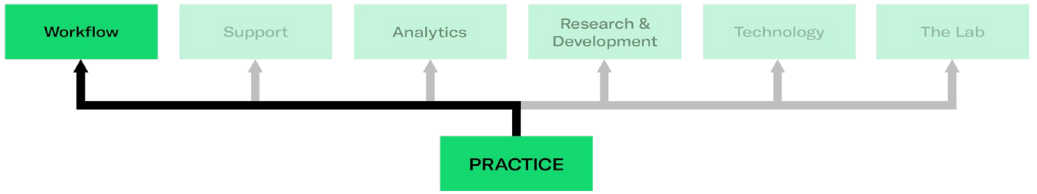
Practice

Workflow – Model QA/QC



AUTODESK® REVIT® Dynamo Excel Microsoft® SQL Server® Power BI

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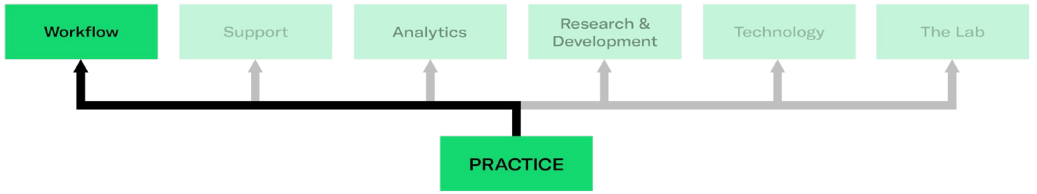
Practice

Workflow – Standards & Procedures



NEWTON | Search | BROWSE | PAGE

Home | People | **Practice** | Culture | Learning | Core Team

Project Directory

Calendars
- Meeting Spaces
- Conference Lines
- Site Visits
- Laser Scanning

Project Essentials
- Administration
- Newforma
- BIM in Practice
- **Standards**
- Procedures
- Planning Approvals
- QA + Risk Management
- Building Permit
- Specifications
- Tender Process
- Construction Administration

Digital Practice
- Our Vision
- Research + Development
- Technology
- Training
- Scripts
- Support

Reference Material

LINE STYLE NAMING

FORMATTING RULES:

- All fields are required except where indicated.
- Fields must be separated by a hyphen character "-". Hyphens should not be used anywhere else in the line style name with exception of a performance range.
- Forward slashes "/" and dots "." are permitted to indicate fractions.

Field 1	Owner
Field 2	Use Ex. • Above, Air Barrier, Fire Rating, Grid Line, Hidden, Markup
Field 3	Description (Optional) A description that further specifies use, scale, line weight, colour, etc. If this field is blank while field 4 is used, it is recommended to fill this field with either "Standard" or a colour such as "Black" in order to avoid field 4 shifting to 3. This will maintain

STANDARDS

+ new Wiki page

Name
- Enscape TF Branding
- Revit Parameters Standard (Content Creation)
- Standard Titleblock Use
- Titleblock Use (Loblaws)

NAMING STANDARDS

+ new Wiki page

Name
- Family Naming
- Group Naming
- **Line Style Naming**
- Material Naming
- Model + Link Naming
- Revit Project Parameter Naming
- Sheet Export Naming
- Sheet Numbering
- Text Style Naming
- Workset Naming

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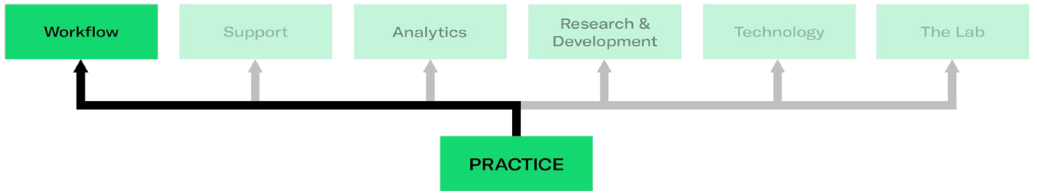
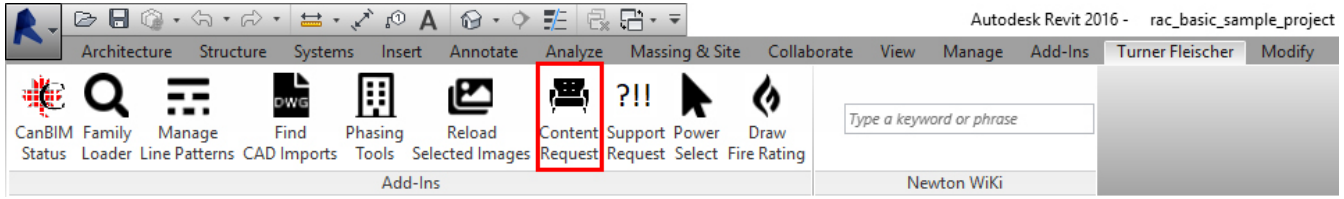
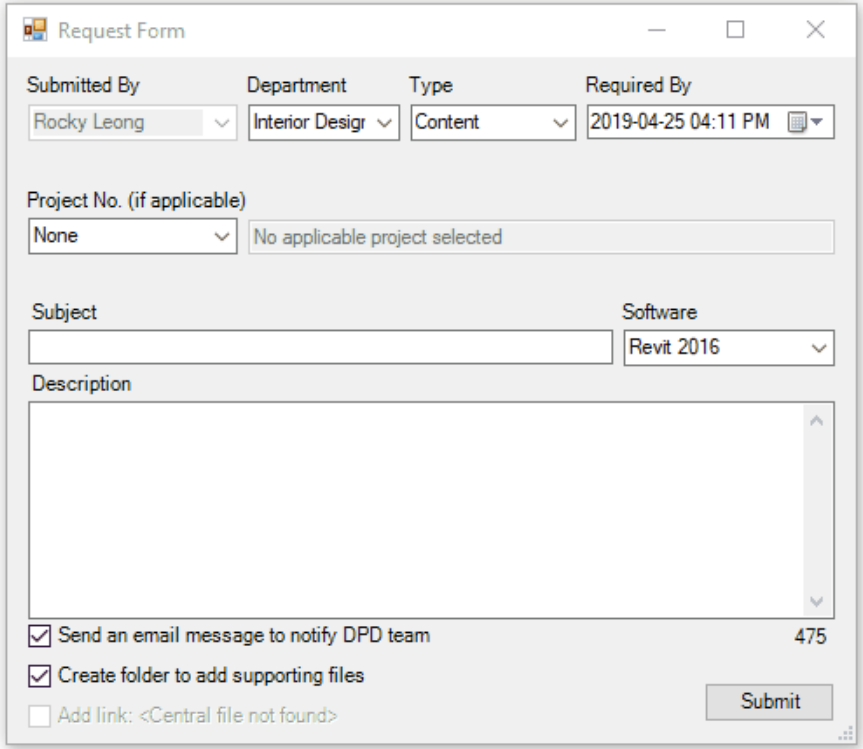
Practice

Workflow – Content Creation

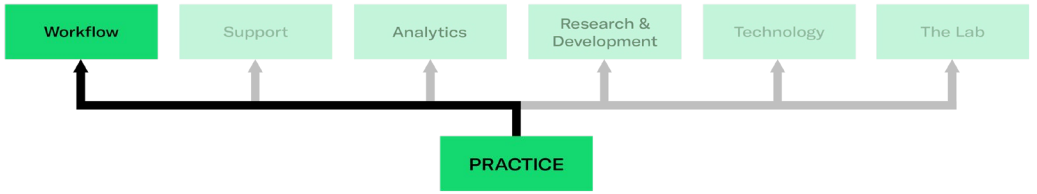


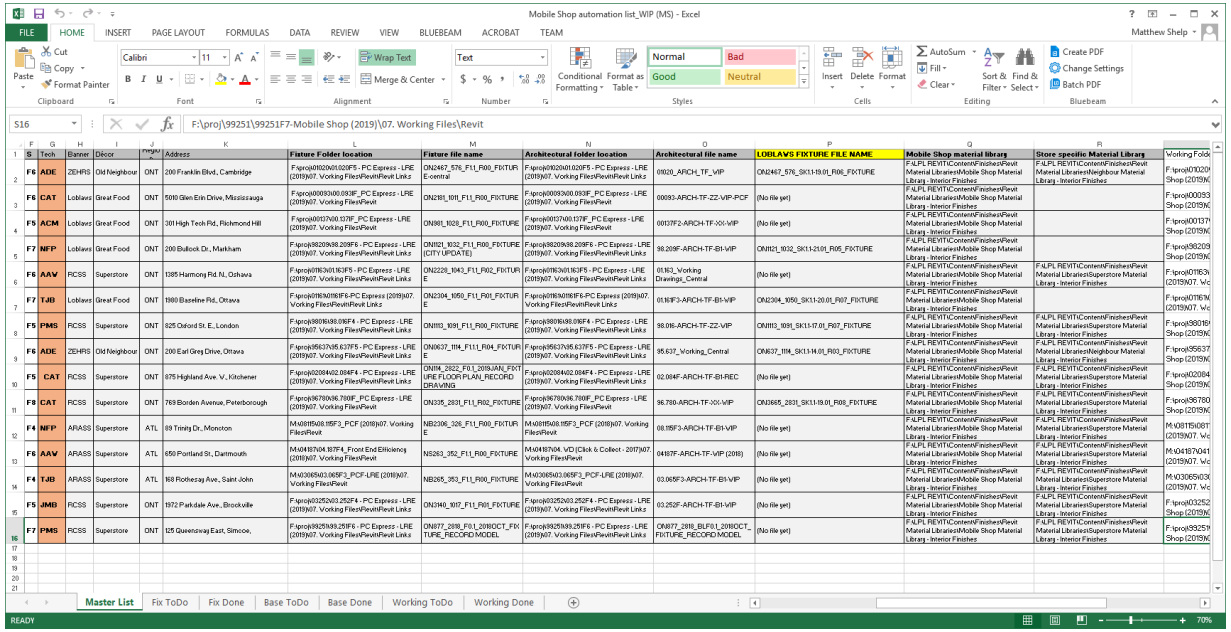


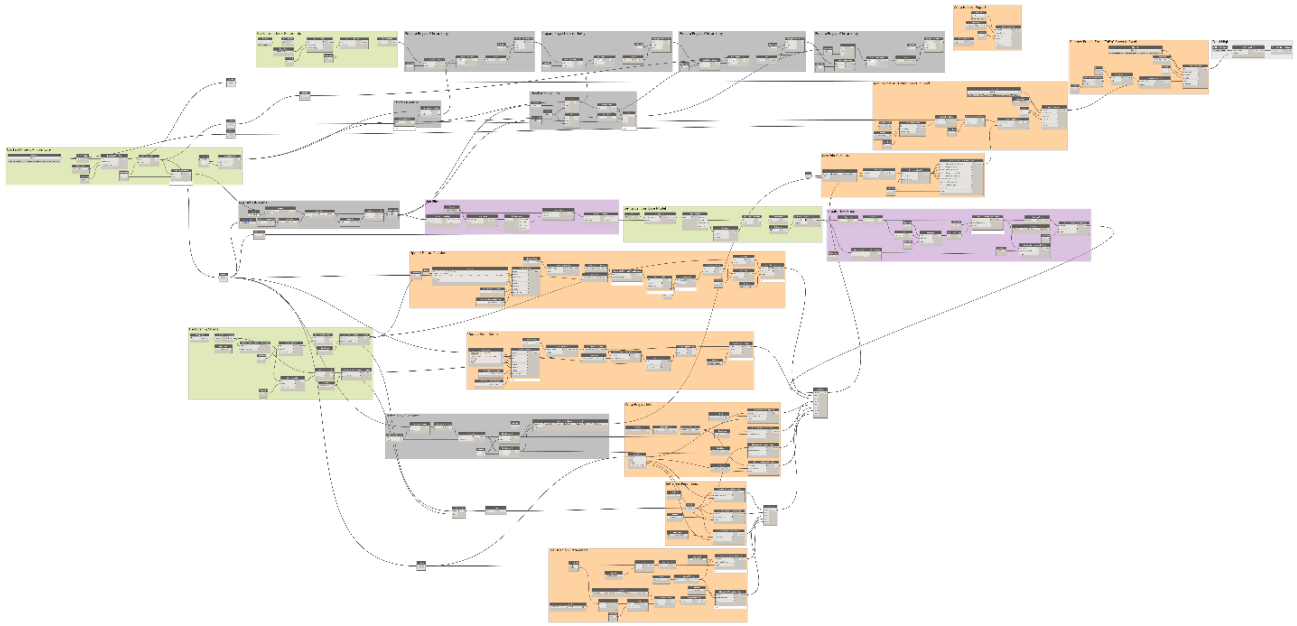


Practice

Workflow – Automation







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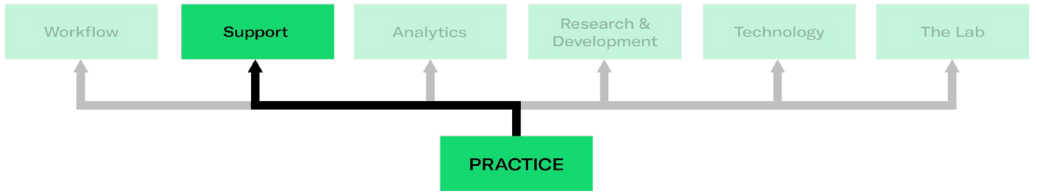
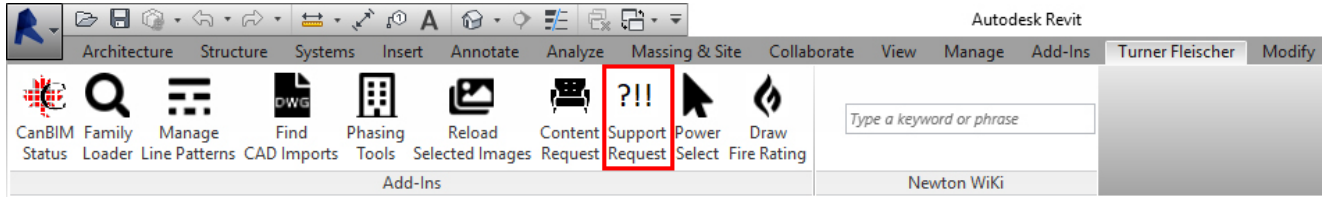
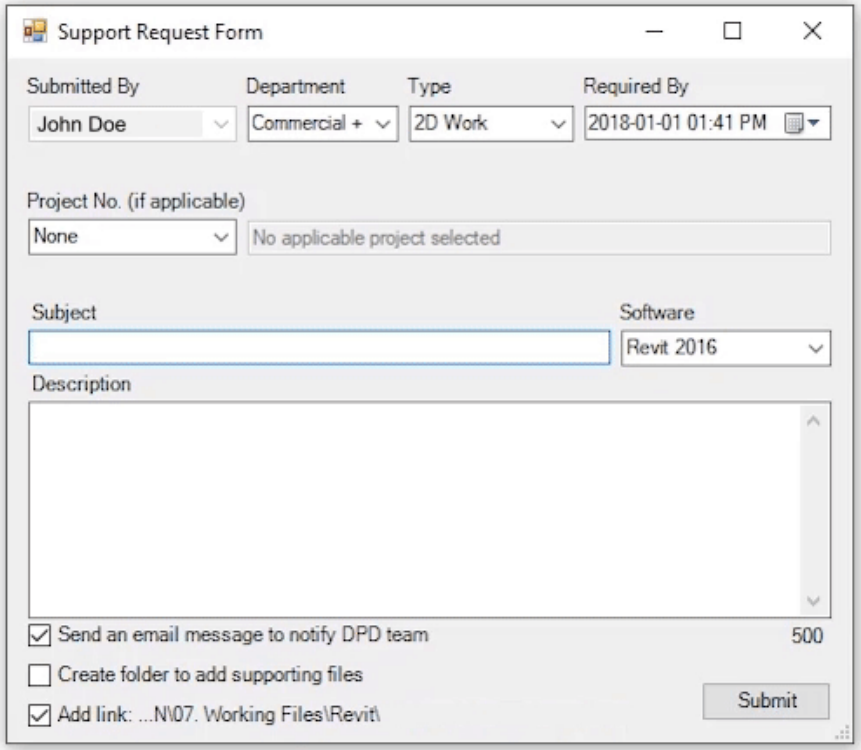
Practice

Support







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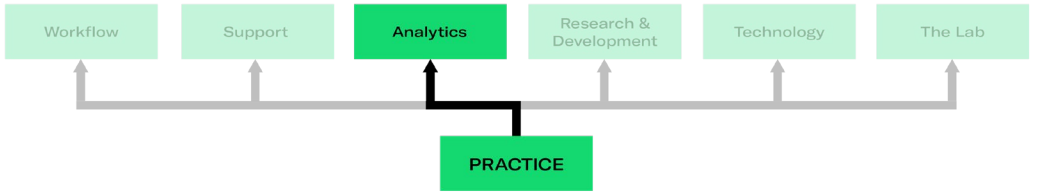
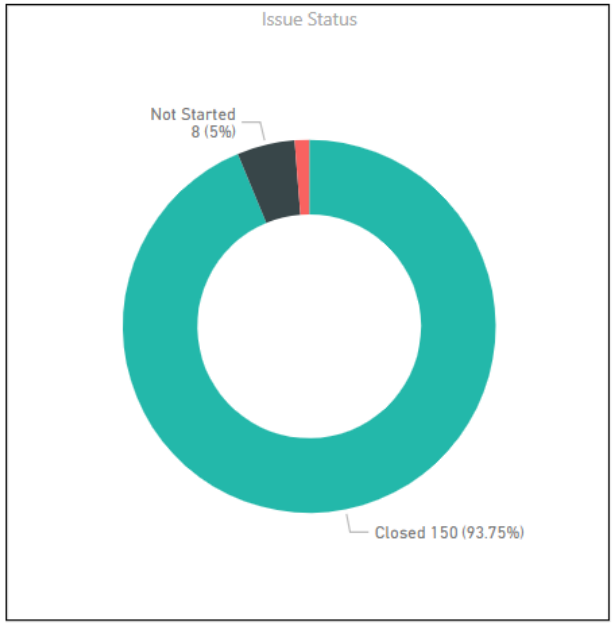
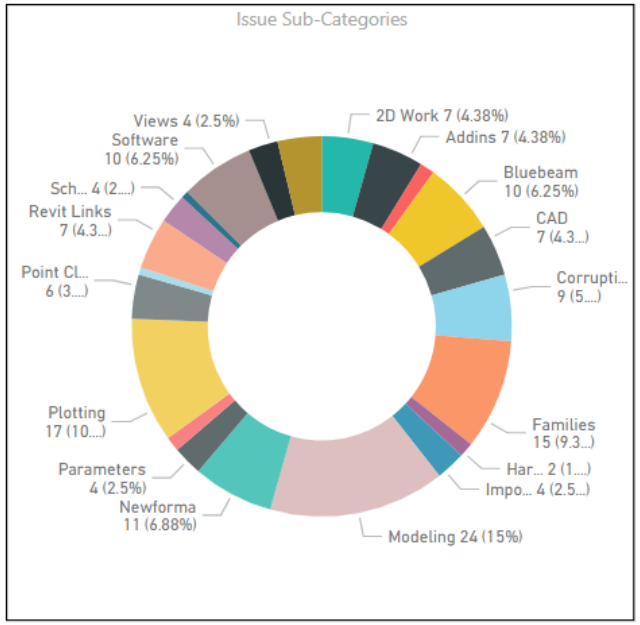
Practice

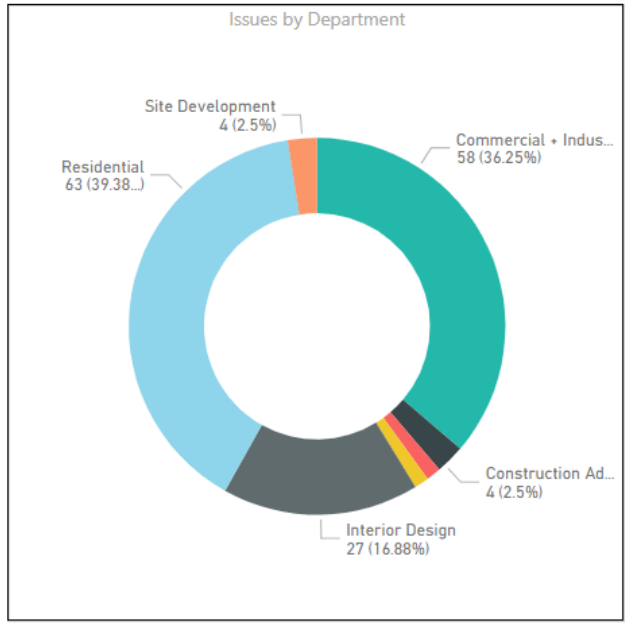
Analytics



Troubleshooting Requests Past 3 Months







Department	CreationTime	Subject	Status	Created By	AssignedTo
Commercial + Industrial (C)	1/28/2019 1:45:00 PM	Edit family for proejct specific dimensions	Closed	Rocky Leong	
Residential	3/18/2019 9:00:00 AM	How to install Schedule XL addin	Closed	Aimen Sarwar	Abdallah
Residential	2/27/2019 8:25:00 AM	File Size	Not Started	Daisy Yim	Daisy
Residential	2/27/2019 8:26:00 AM	File Size	Not Started	Daisy Yim	Daisy
Residential	2/26/2019 9:59:00 AM	Marketing Drawing Title Block Family Broken	Closed	Daisy Yim	Daisy
Interior Design	2/28/2019 10:00:00 AM	2d/3d Grid Extents lesson at desk	Closed	Laura Simpson	Kristian
Commercial + Industrial (C)	2/22/2019 1:30:00 PM	Adobe printing issues - not printing more than one view/sheet	Closed	Ashley McPhaden	Kristian
Residential	2/12/2019 9:45:00 AM	CADScrubbing issues and Large 3D view limits	Closed	Catherine Martin	Kristian
Residential	2/6/2019 3:15:00 PM	Corruption issues in View template from worksharing	Closed	Aurelie Amable	Kristian
Construction Administration	2/13/2019 3:15:00 PM	Filter lesson for slab edges and groups	Closed	Athene Hummel	Kristian
Residential	1/15/2019 2:30:00 PM	Filters and selection methods	Closed	Aurelie Amable	Kristian
Construction Administration	1/10/2019 11:15:00 AM	Lesson on filters with Michelle and Sussan	Closed	Athene Hummel	Kristian

Total Issues Count

160

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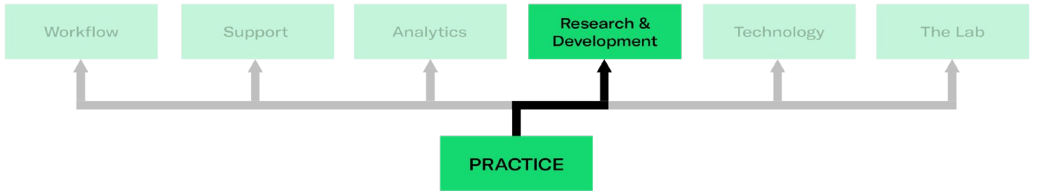
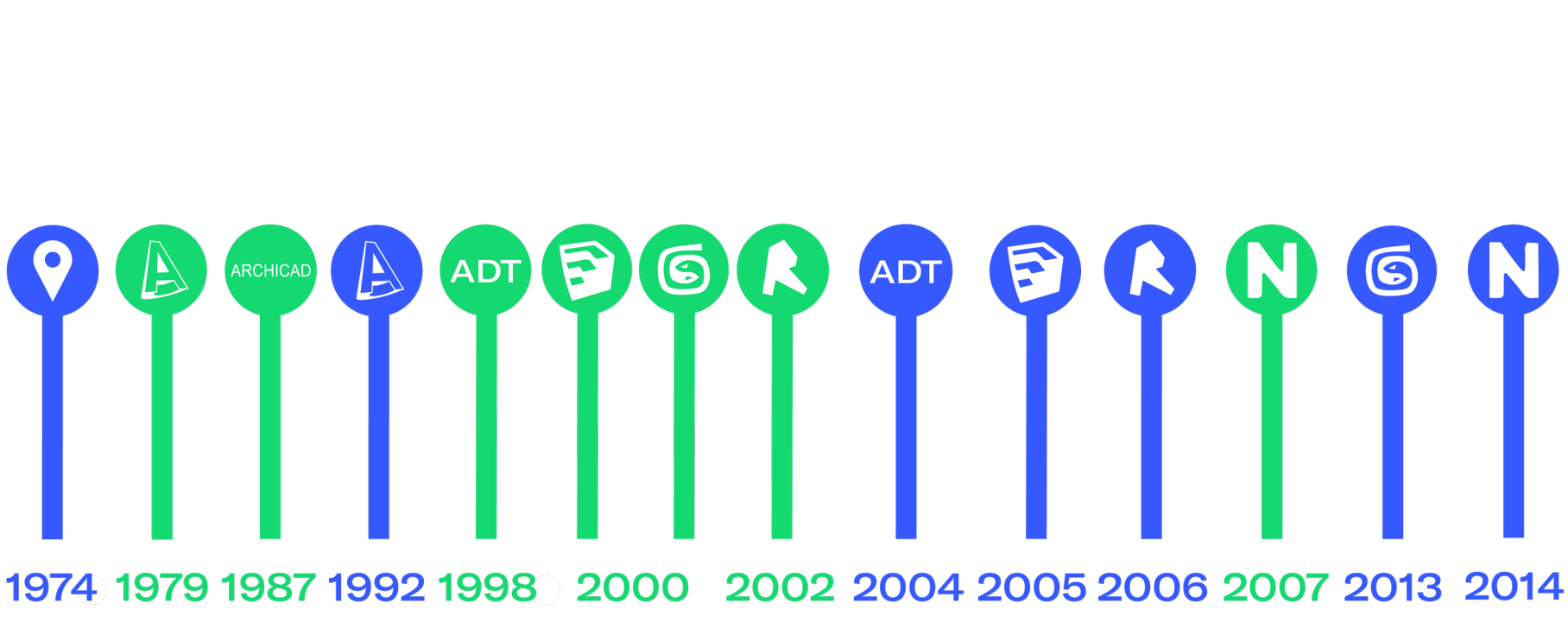
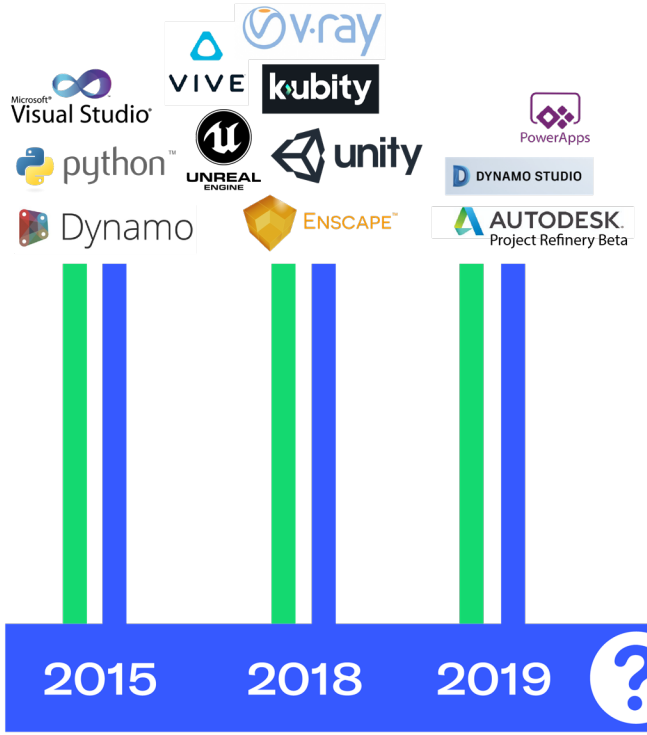
Practice

Research & Development







Industry Shifts

TF Adoption

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S

Practice

Technology

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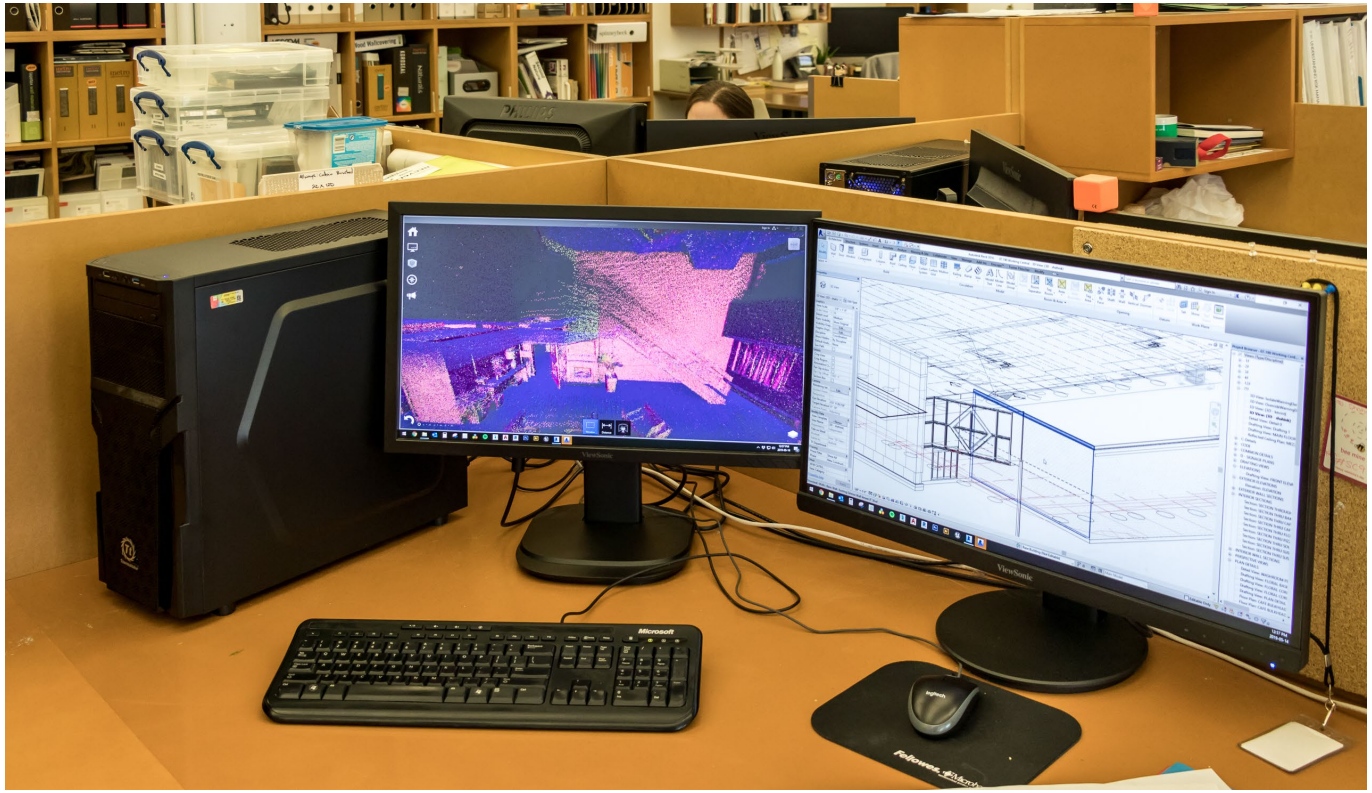
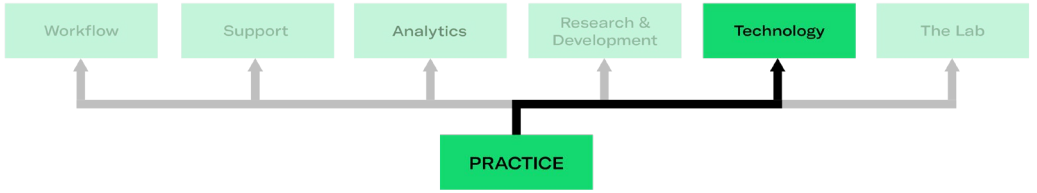
Practice

Technology – IT Infrastructure





V-Ray
Enscape
unity
InDesign
SketchUp
python
VIVE
PowerApps
NAVISWORKS
BLUEBEAM
A NEMETSCHEK COMPANY
Microsoft Visual Studio
UNREAL ENGINE
3DS MAX
Microsoft Office xp
AUTODESK REVIT
Photoshop CC
Dynamo
Adobe Illustrator
kubity

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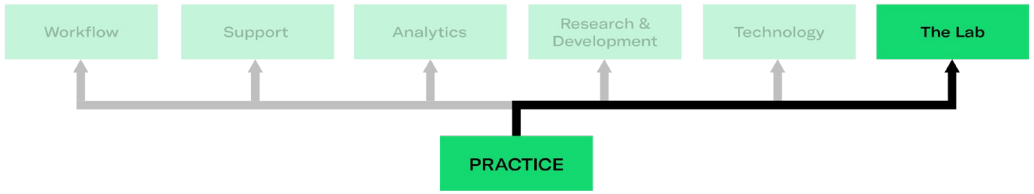
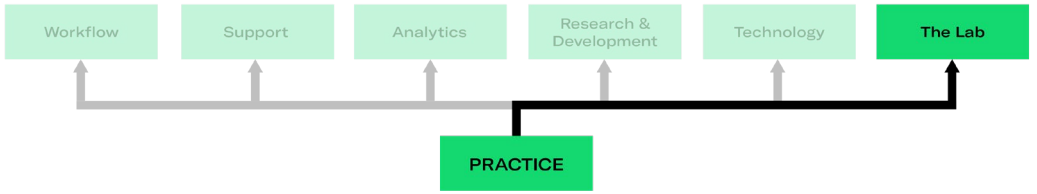
Practice

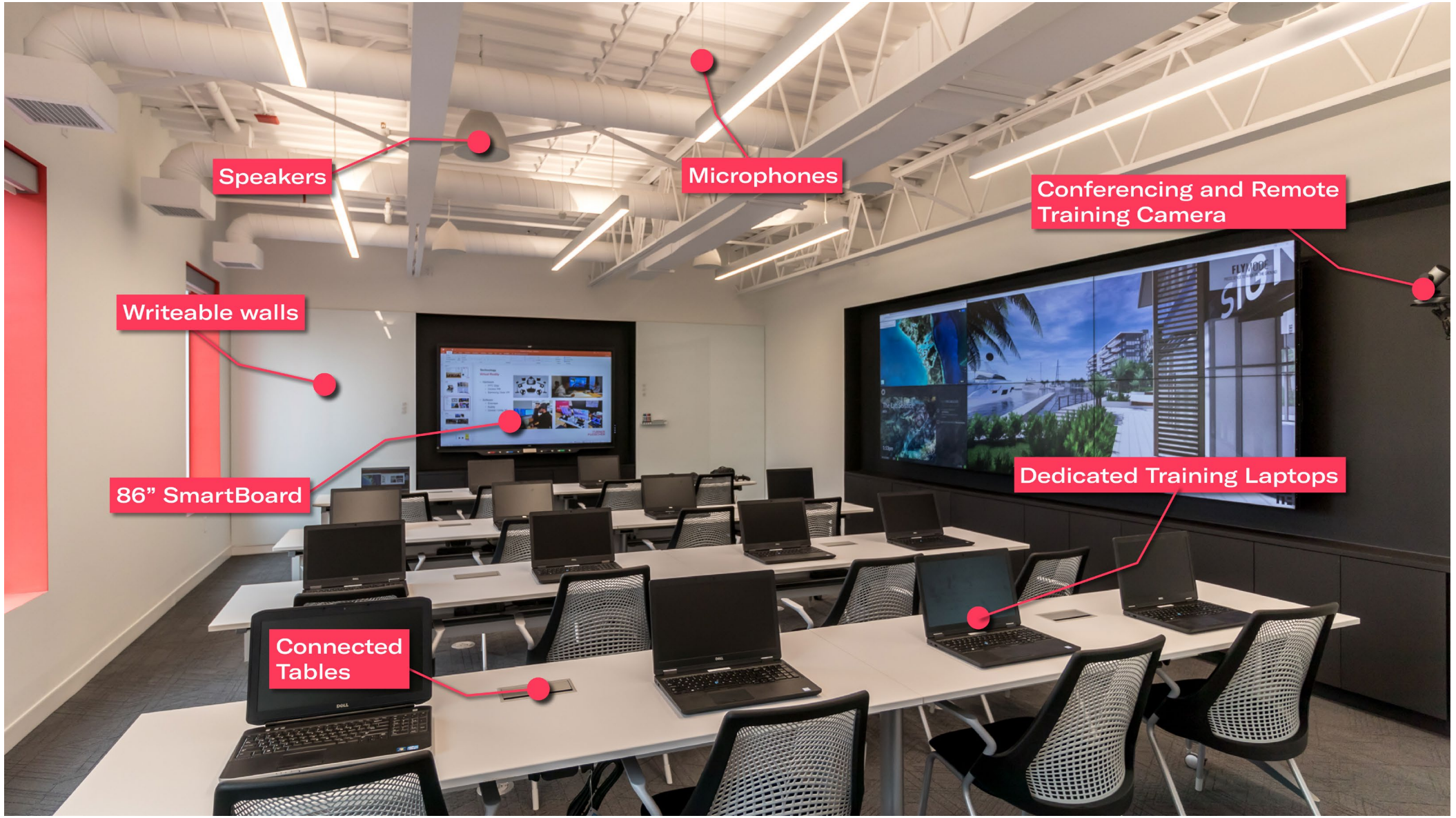
The Lab



Practice

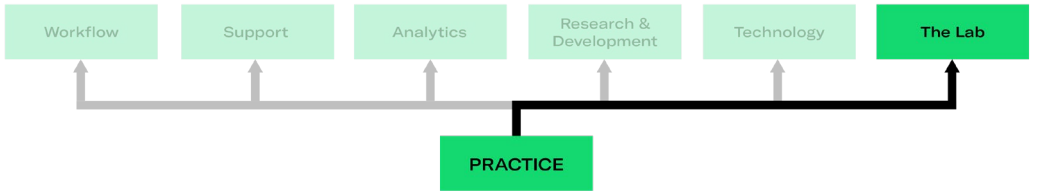
The Lab

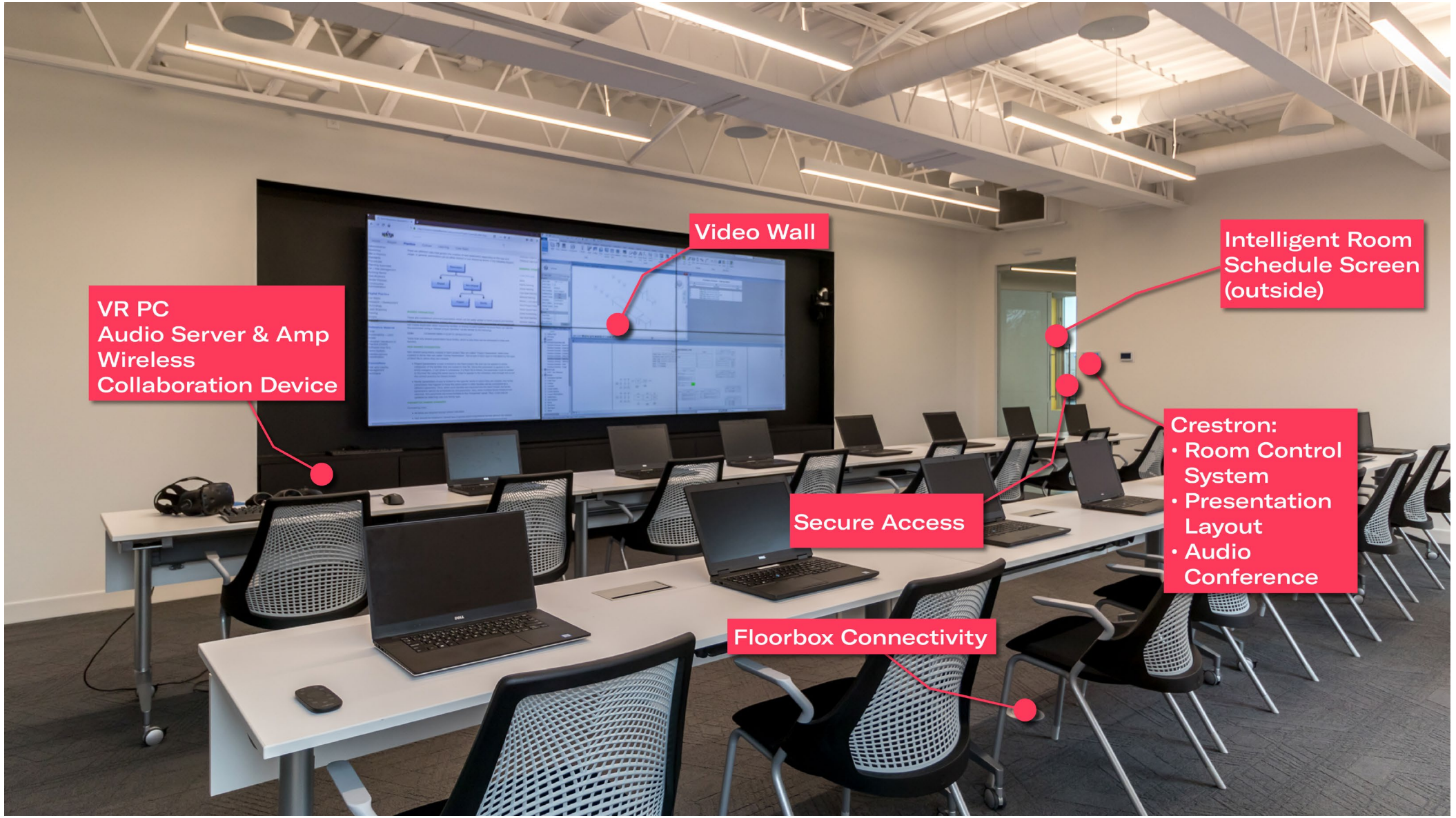




Practice

The Lab

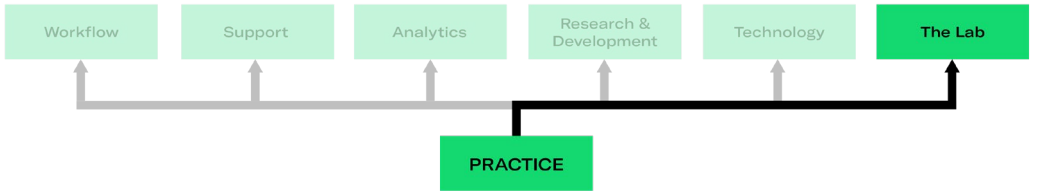


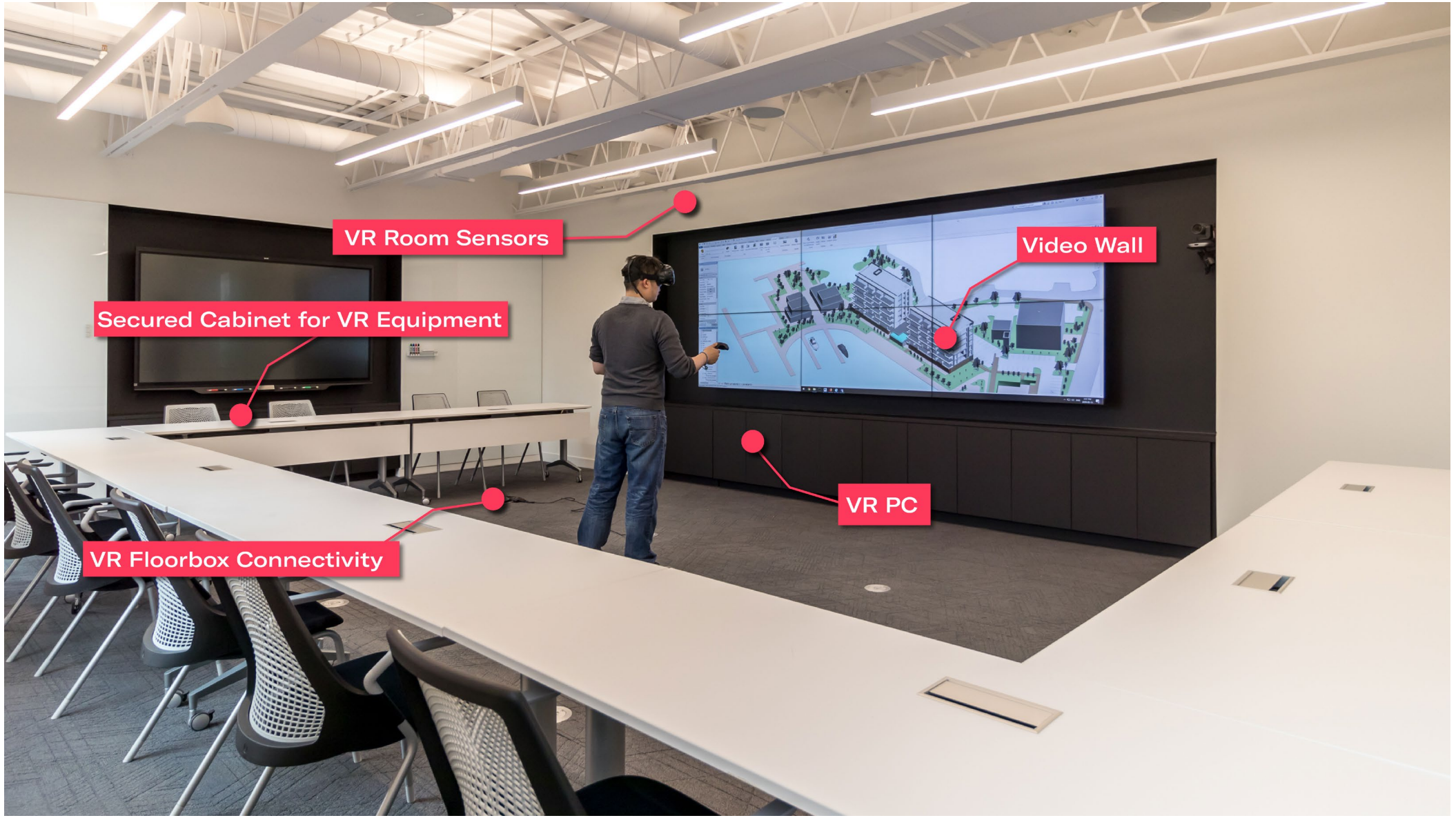


E

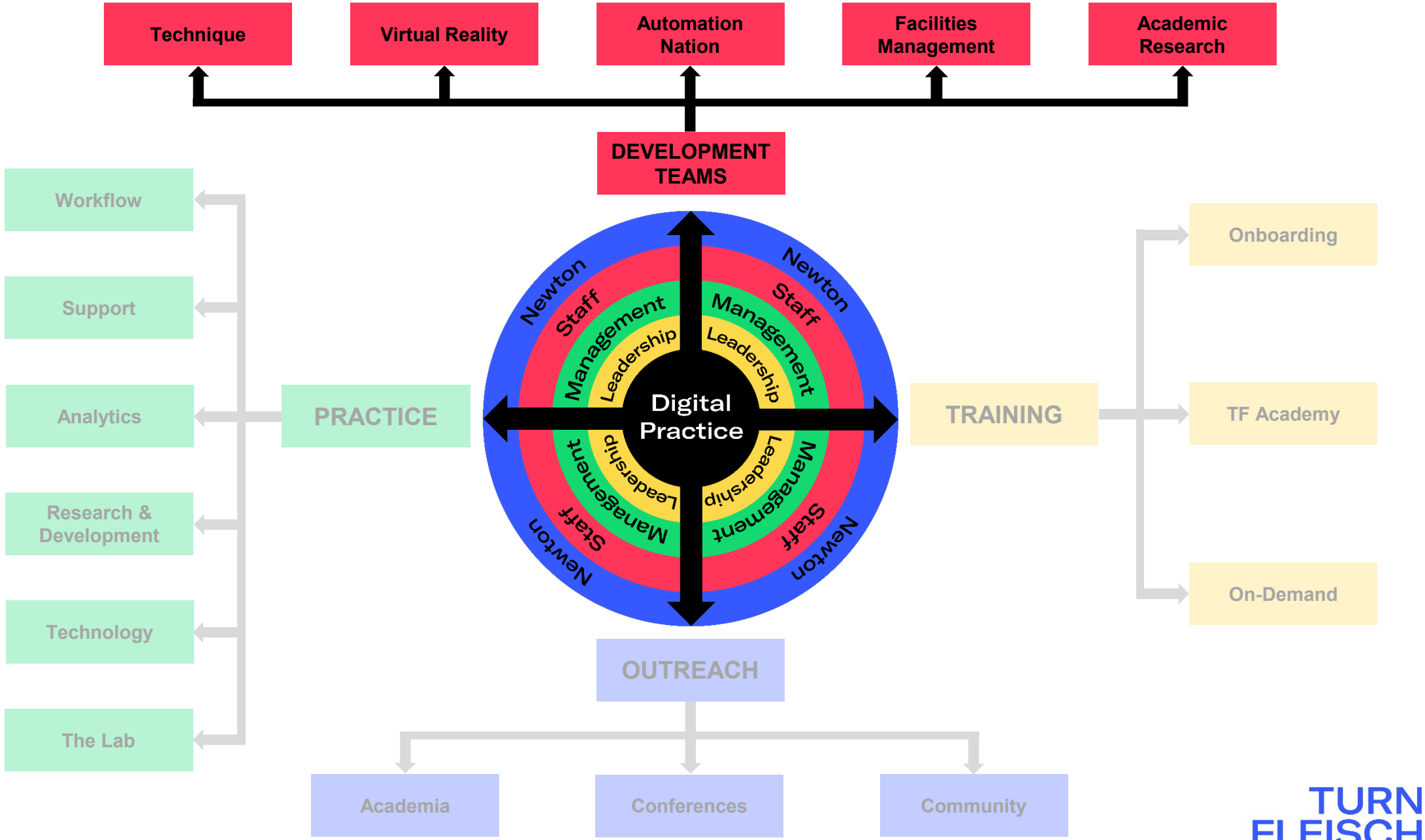
Practice

The Lab





E



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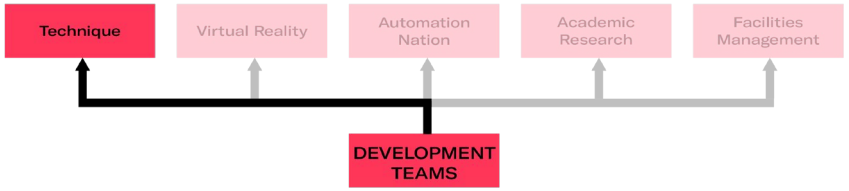
E

Development Teams

Technique



Nick Bowker
Manager
Commercial + Industrial
9 years at TF

Raza Mehdi
Associate
Residential + Mixed Use
10 years at TF

Ellen Bensky
Principal – CEO/CFO
Finance Administration
29 years at TF

Florian Caffier
Designer/Technologist
Marketing + Communications
2 year at TF

Matthew Shelp
Intermediate Designer/Technologist
Commercial + Industrial
4 years at TF

Calvin Fung
Project Manager
Residential + Mixed Use
9 years at TF

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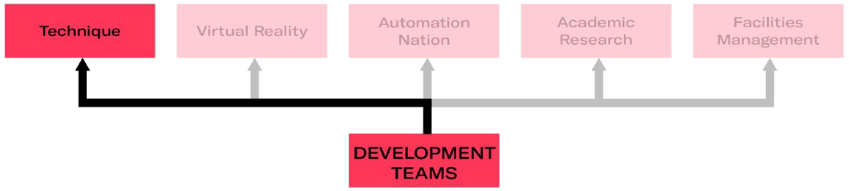
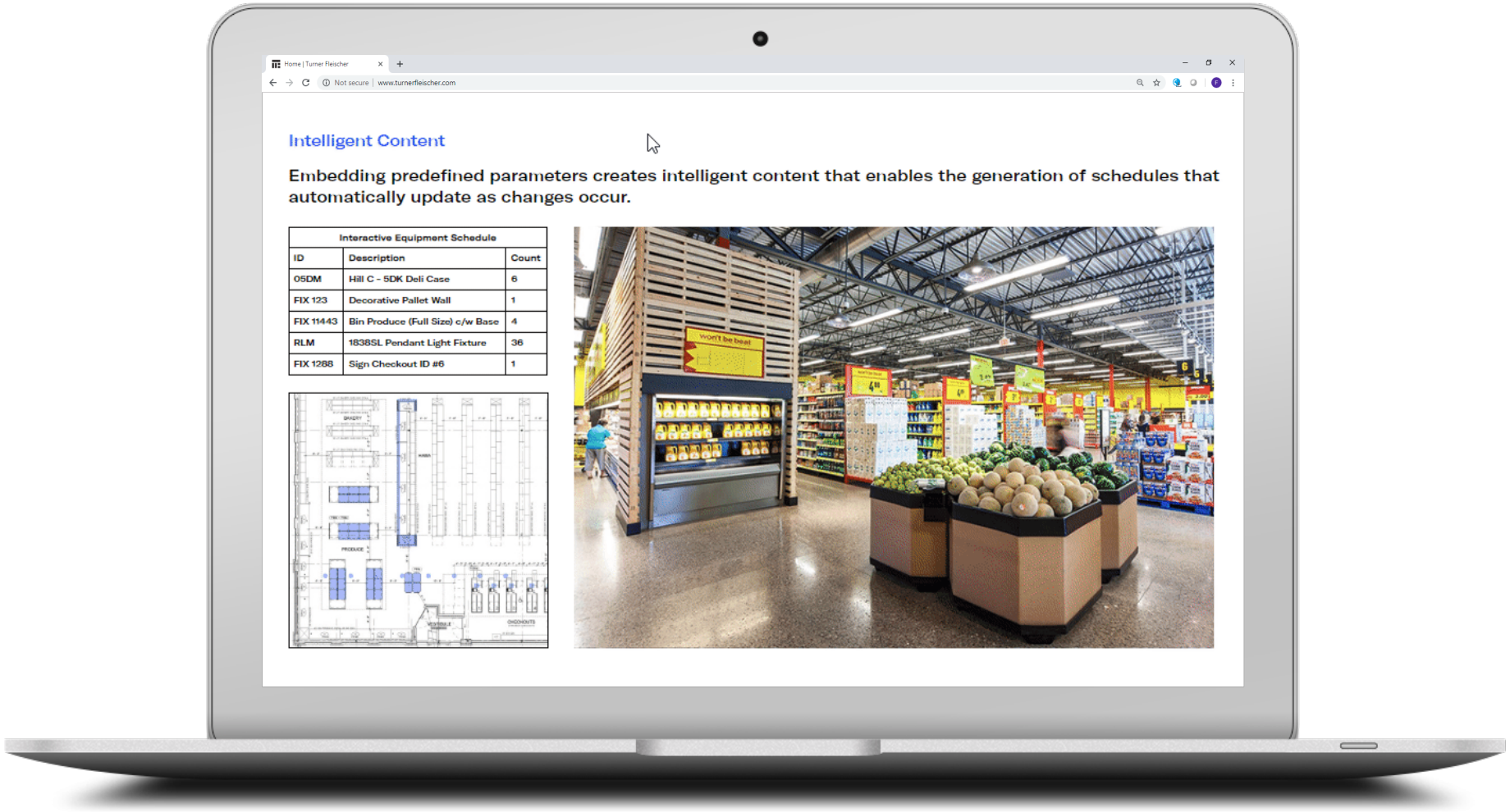
Development Teams

Technique





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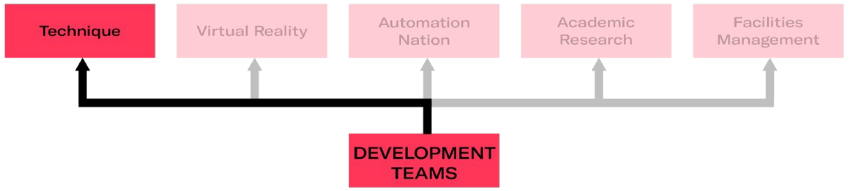
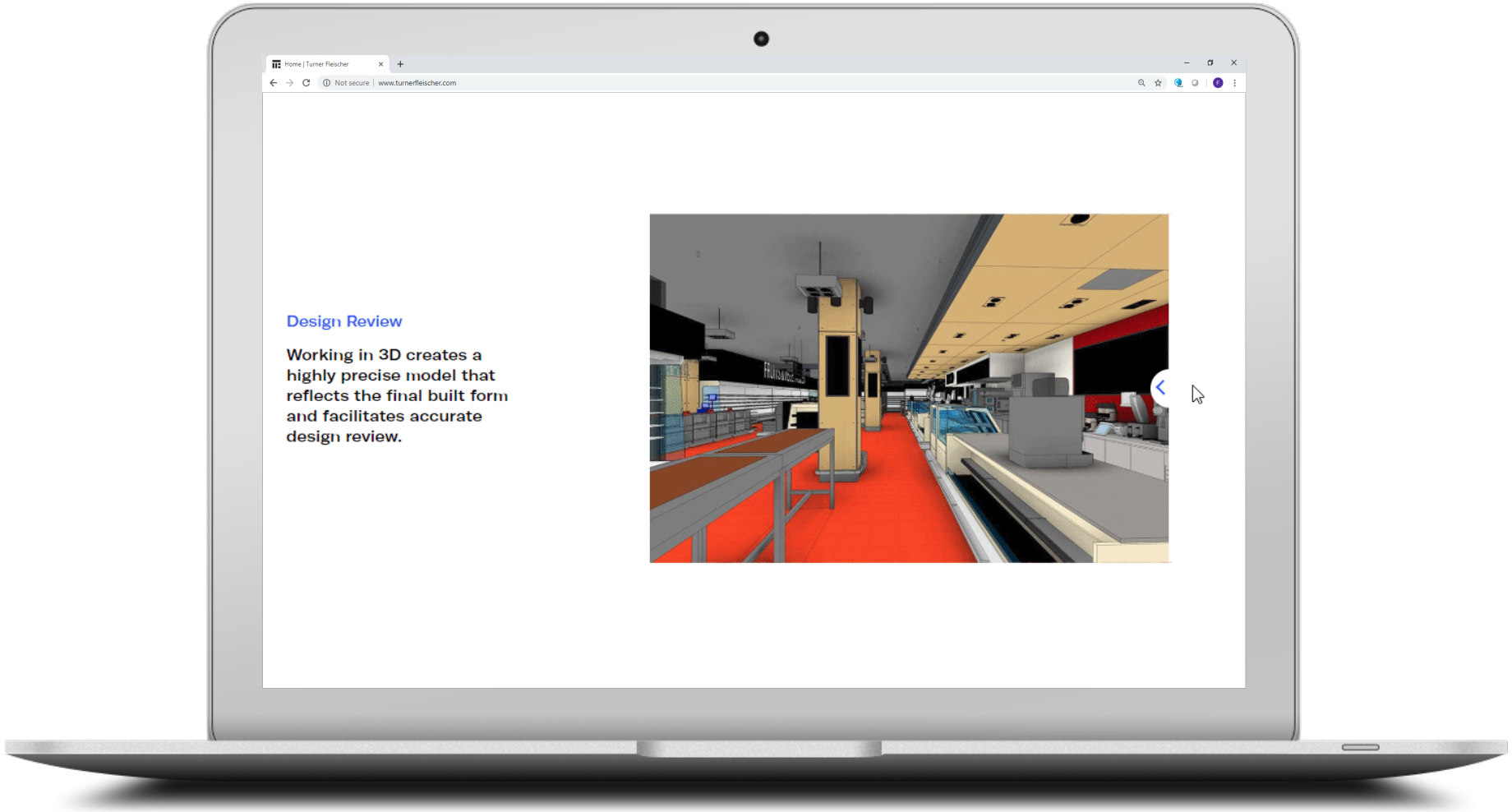
Development Teams

Technique





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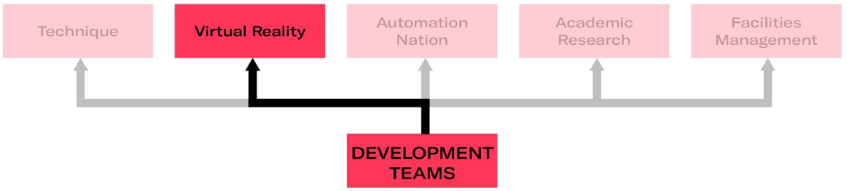
Development Teams

Virtual Reality



Nebojsa Milutinovic
Intermediate Designer/Technologist
Residential + Mixed Use
3 years at TF

Laura Simpson
Intermediate Designer/Technologist
Interiors
2 years at TF

Nick Bowker
Manager
Commercial + Industrial
9 years at TF

Shahin Kiyomarsi
Designer/Technologist
Commercial + Industrial
2 years at TF

Daniel Vivat
Job Captain
Residential + Mixed Use
1.5 year at TF

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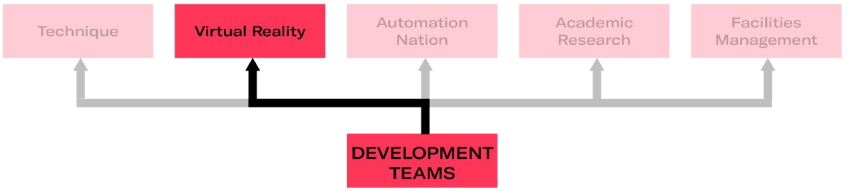
Development Teams

Virtual Reality



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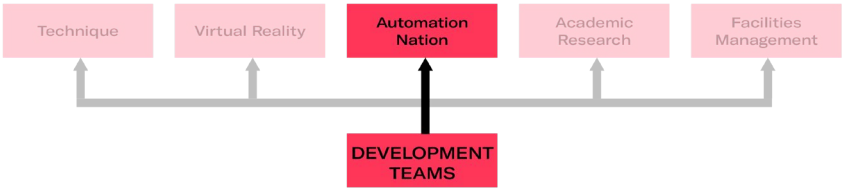
Development Teams

Automation Nation



Tyler Baxter
Intermediate Designer/Technologist
Commercial + Industrial
2 years at TF

Calvin Fung
Project Manager
Residential + Mixed Use
9 years at TF

Matthew Shelp
Intermediate Designer/Technologist
Commercial + Industrial
4 years at TF

John Corston
Designer/Technologist
Commercial + Industrial
1.5 year at TF

Henry Tran
Intermediate Designer/Technologist
Commercial + Industrial
4 years at TF

Mohsen Assaqqaf
Programmer
Digital Practice
6 months at TF

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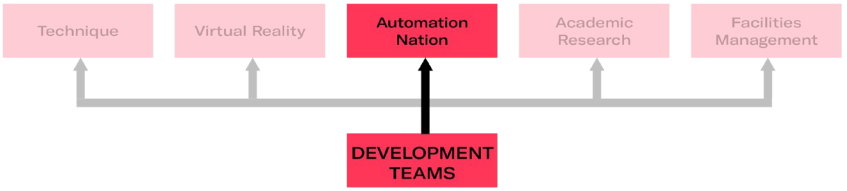
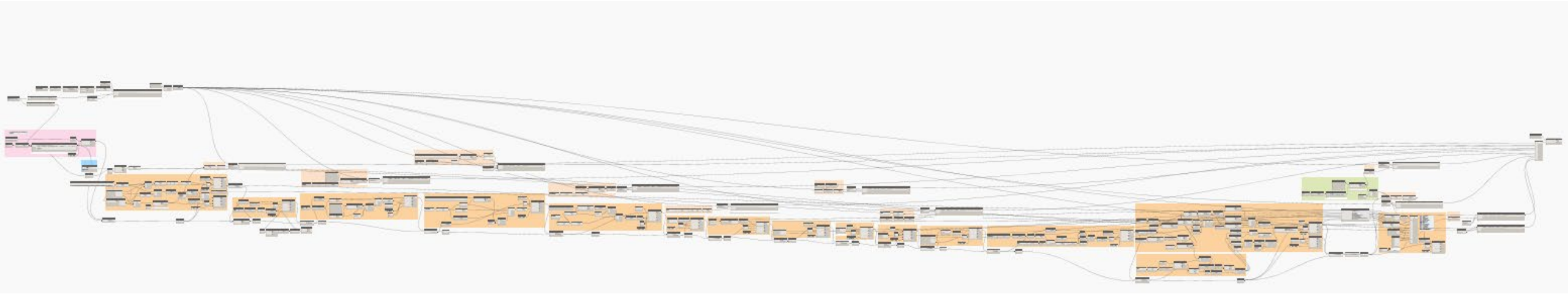
Development Teams

Automation Nation





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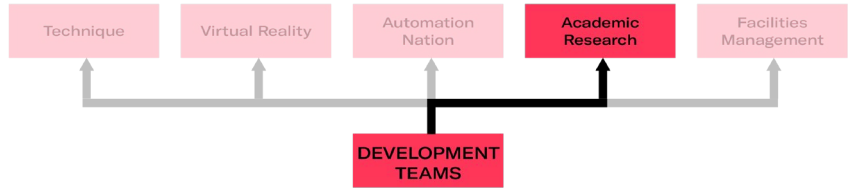
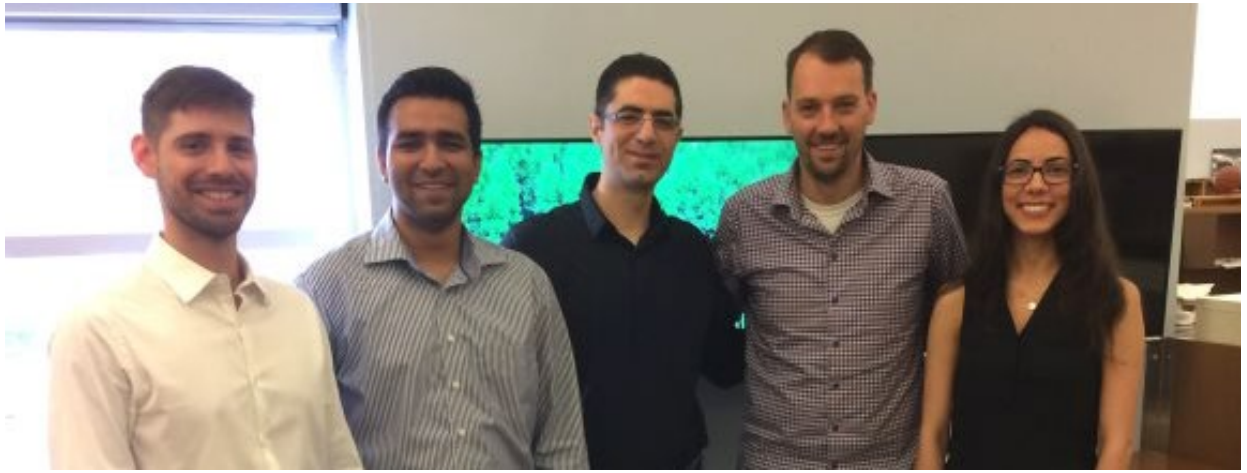
Development Teams

Academic Research





Natural Sciences and Engineering Research Council

NSERC Grant 1: QTO: Model Analysis and Software Research
Students: Jacob Anhang, Fernanda Vale, Alexander Liu

NSERC Grant 2: QTO utilizing Dynamo
Students: Gabriel Nery, Amrinder Waraich

NSERC Grant 3: Validate & Optimize Digital Architectural Content Library
Students: Dulce Gallardo, Rabiya Kayhan

NSERC GRANT 4: Facilities Management
Students: Jessica Frasca, Abdallah Darwish

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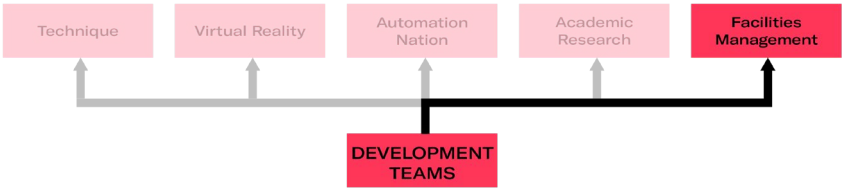
Development Teams

Facilities Management



Kristian Pal
Lead Specialist
Digital Practice
3 years at TF

Marco Marcoccia
Knowledge Manager
Digital Practice
5 years at TF

Srujana Janardan
Laser Scanning Specialist
Digital Practice
1 year at TF

Abdallah Darwish
Designer/Technologist
Commercial + Industrial
3 months NSERC Research Student
4 months at TF

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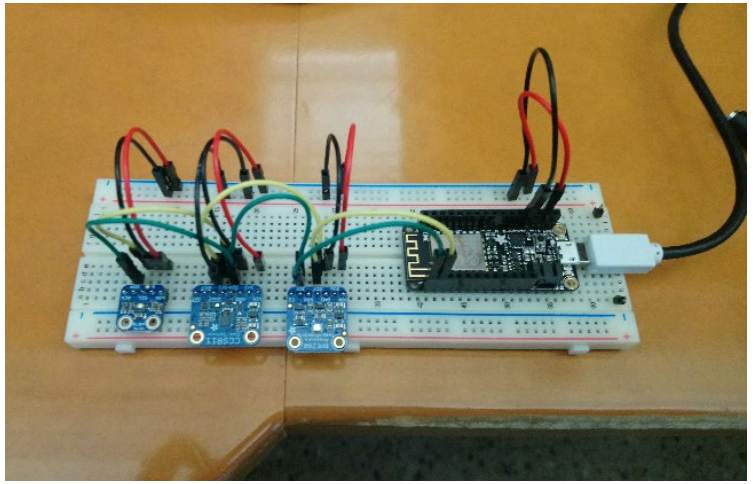
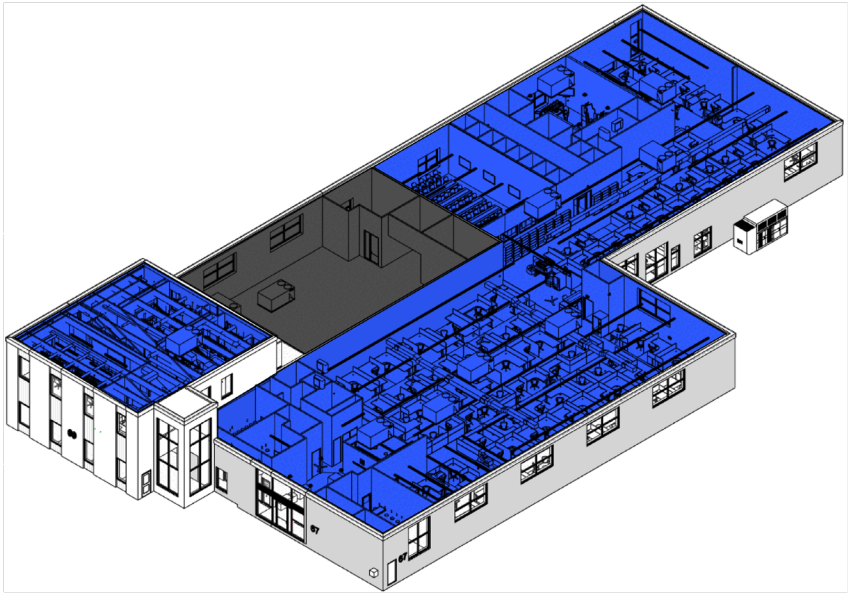
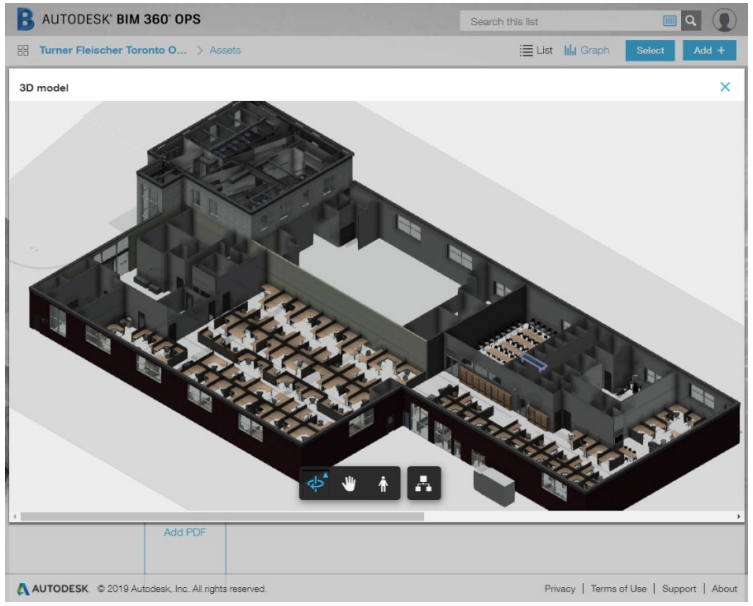
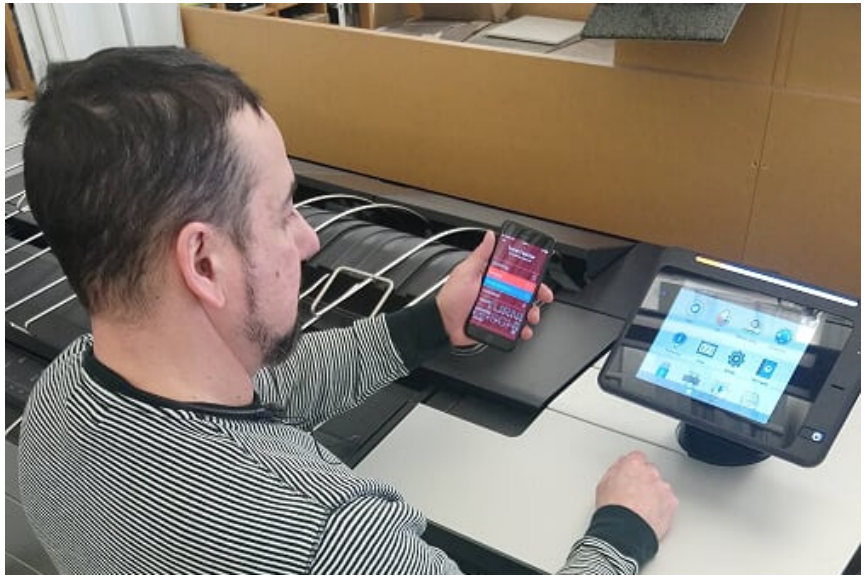
Development Teams

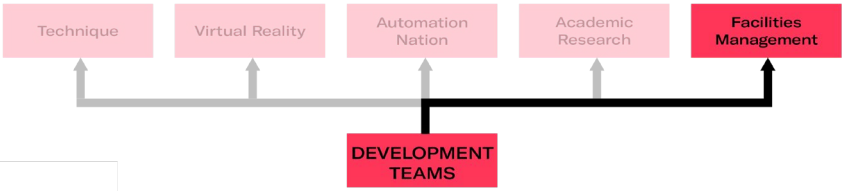
Facilities Management











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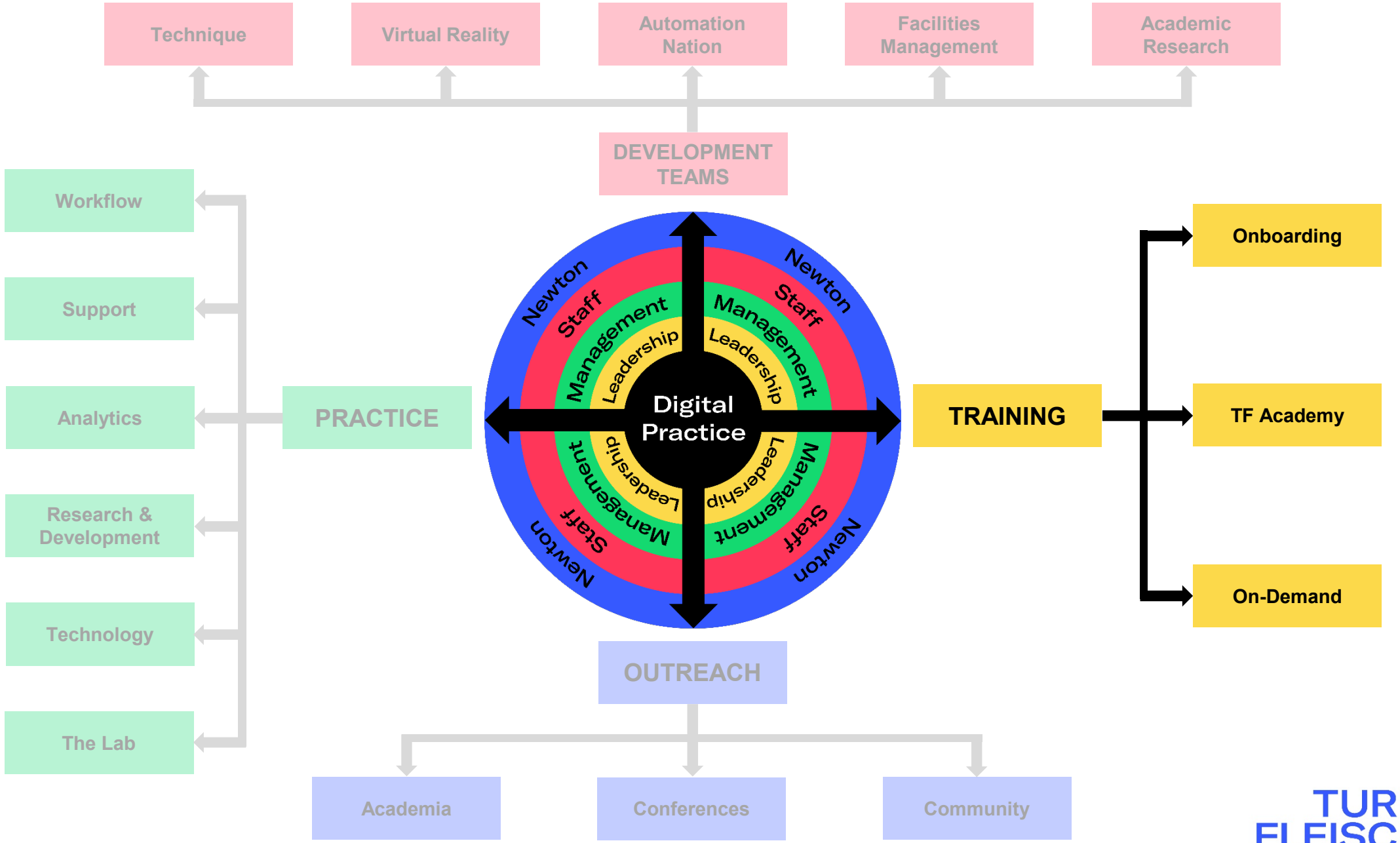

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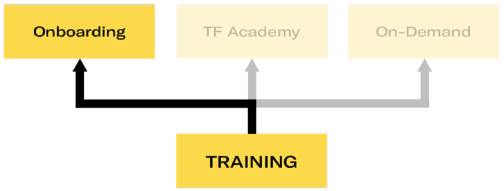
S

Training

Onboarding



BLUEBEAM®

NEWFORMA

Dynamo

ENSCAPE™

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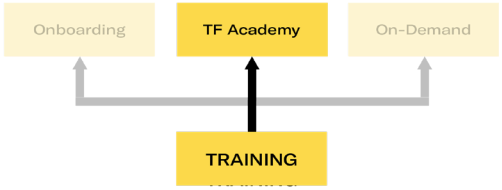
Training

TF Academy



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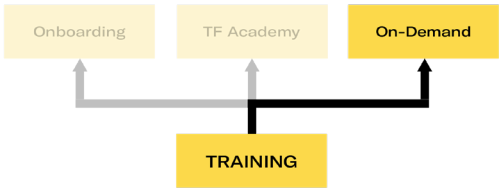
Training

On-Demand



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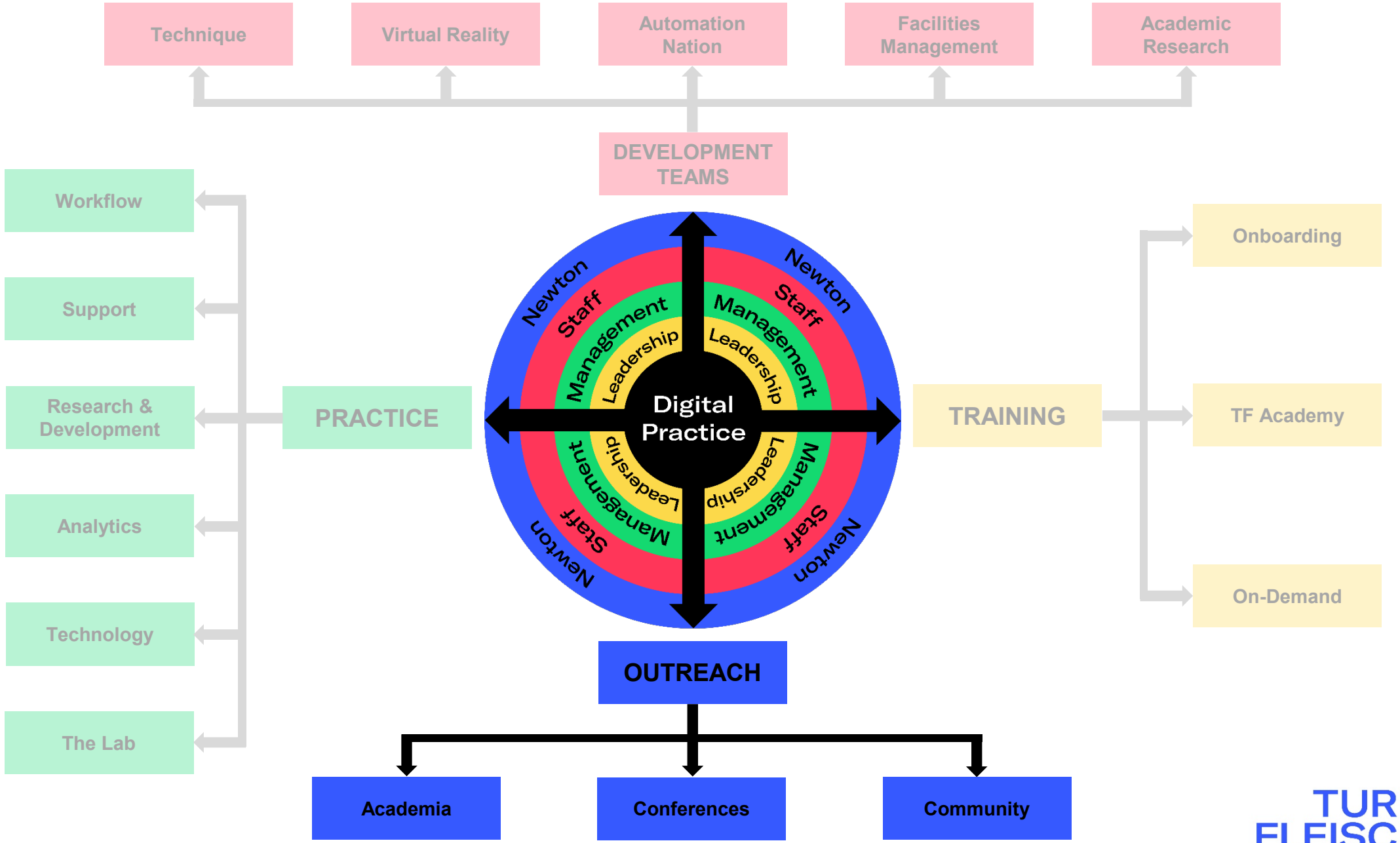

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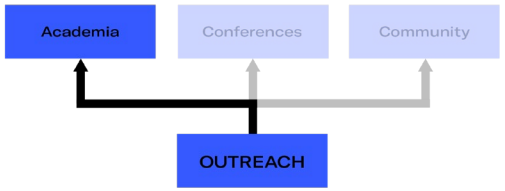
E

Outreach

Academia

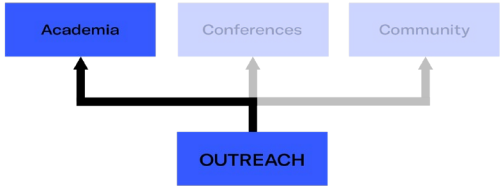


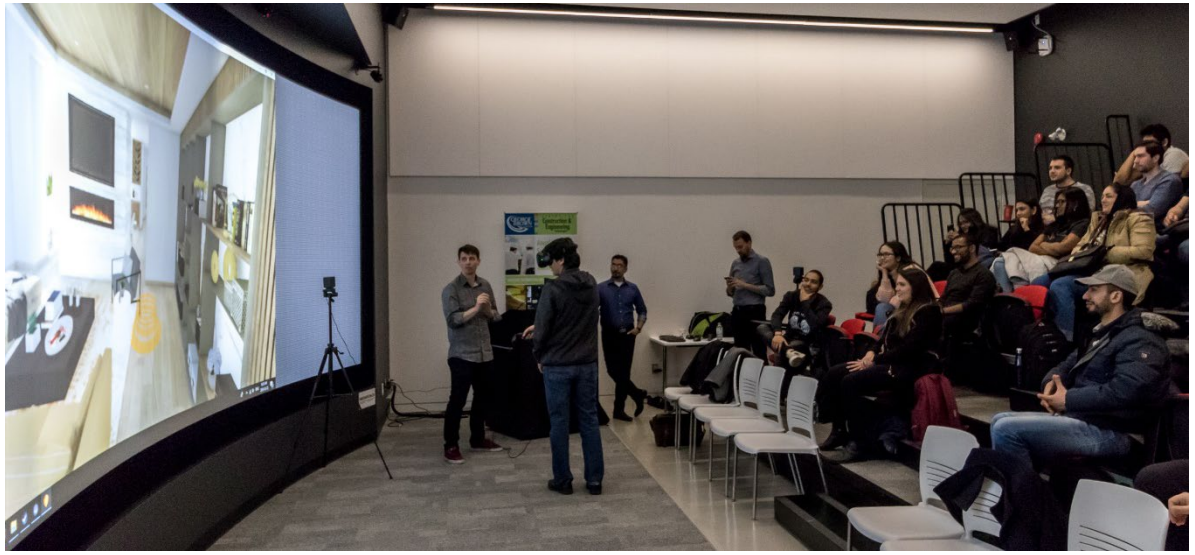
TURNER FLEISCHER

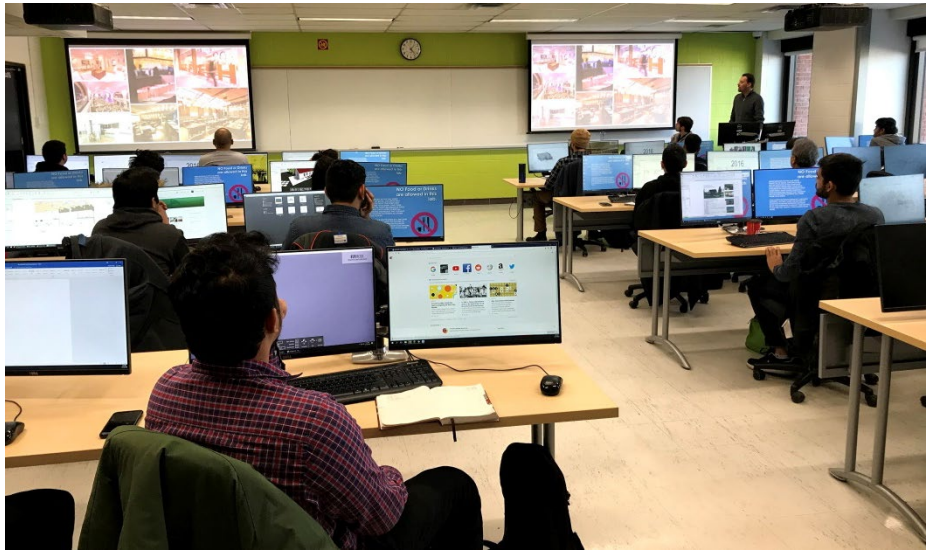
E

Outreach

Academia





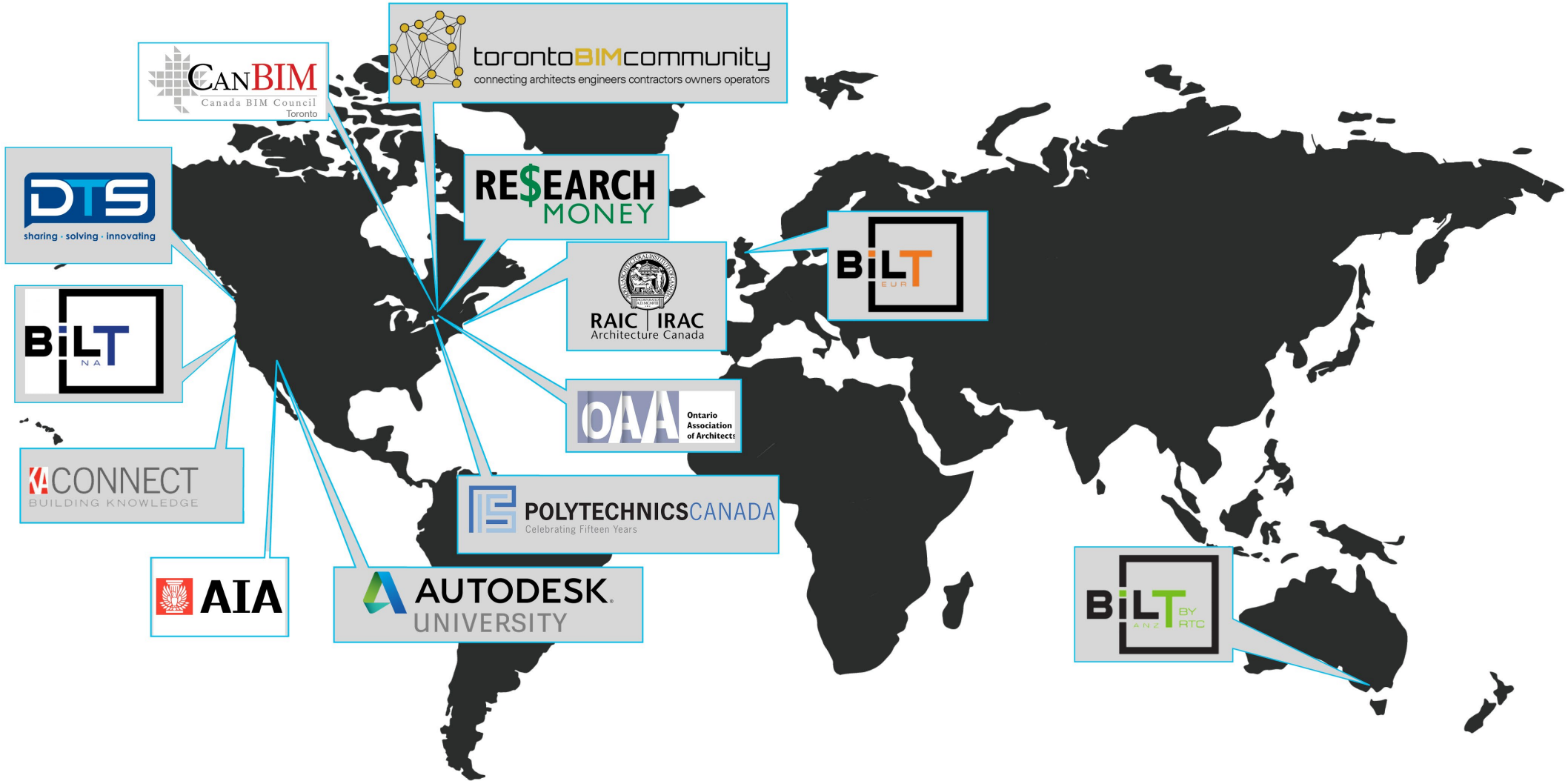


TURNER FLEISCHER

E

Outreach

Conferences



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Outreach

Conferences

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E

Outreach

Community

CanBIM

torontoBIMcommunity
connecting architects engineers contractors owners operators

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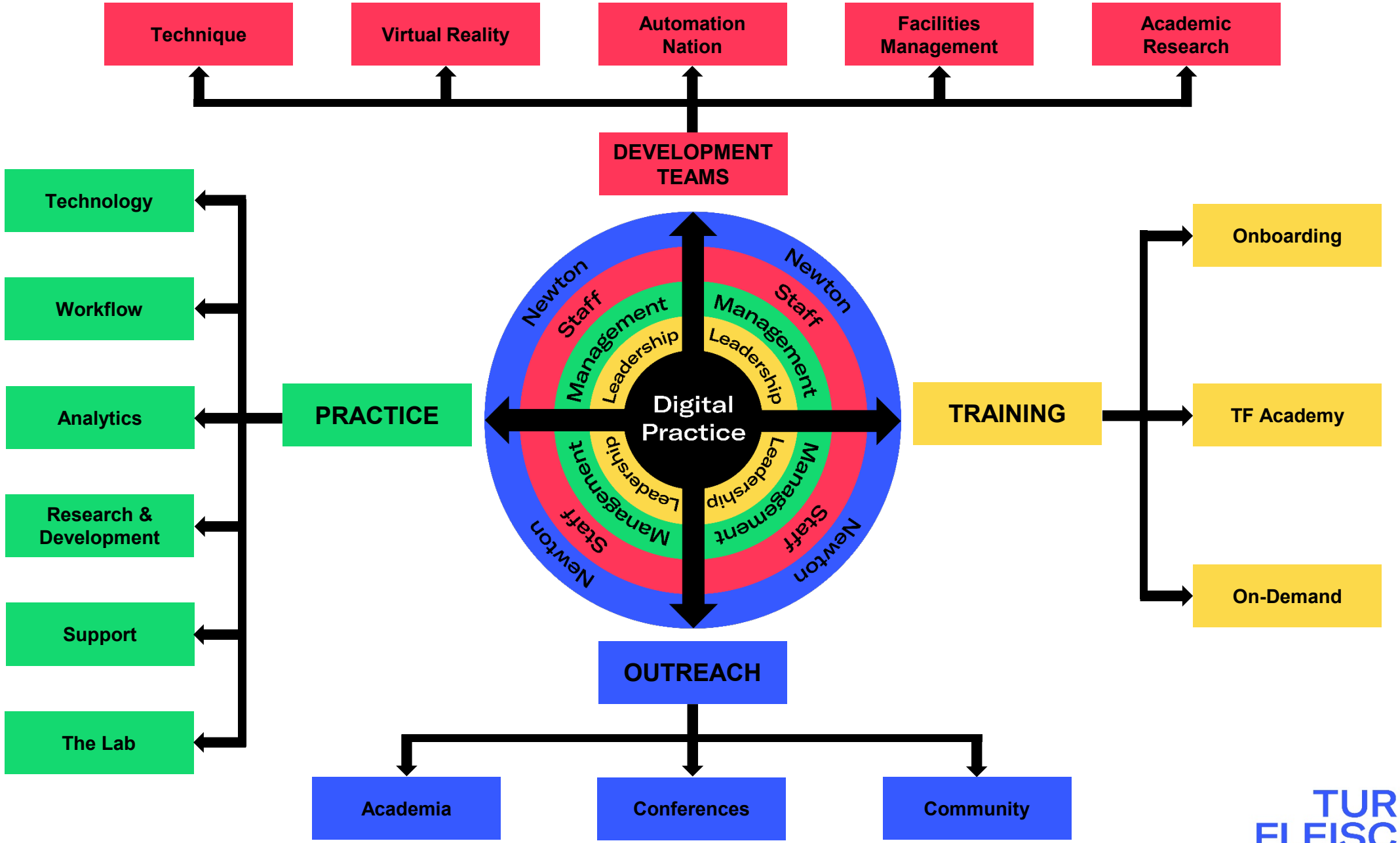
E



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So… Why Implement a Digital Practice and Look Beyond BIM Management?

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S

It was all about BIM, but in reality it’s all about establishing a new operational standard.

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When something isn’t working, Stop, Disrupt and Start again.

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Harness the power of a mind-map to visualize the depth, breadth and impact on your practice.

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FLEISCHER

Before hiring, look inward and empower your subject matter experts.

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FLEISCHER

Create a team that encourages curiosity, nurtures creativity and fosters collaboration.

TURNER
FLEISCHER

Make it the foundation of your studio.

TURNER
FLEISCHER

TURNER
FLEISCHER
Thank You