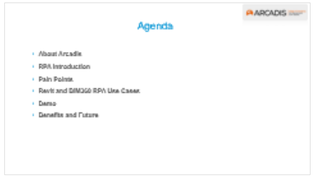
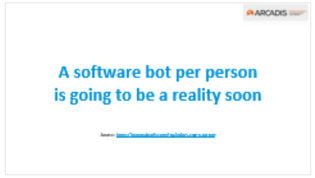

Automate Boring Stuff in Autodesk using RPA
ARCADIS


Agenda
About Arcadis
RPA Introduction
Pain Points
Revit and BIM360 RPA Use Cases
Demo
Benefits and Future


A software bot per person is going to be a reality soon


About the speaker


About the speaker


Learning Objectives


Arcadis at a Glance
2018
#5
#12


We Address the World's Most Pressing Challenges

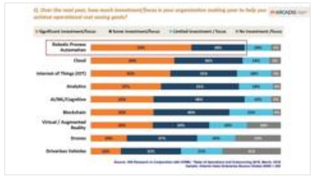

Global Reach
27,000+
70+
1888
350
40


RPA Introduction

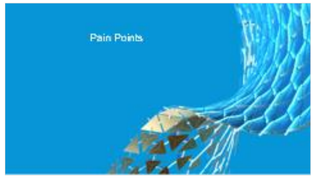

Robotic Process Automation


RPA Key Areas


RPA Tools

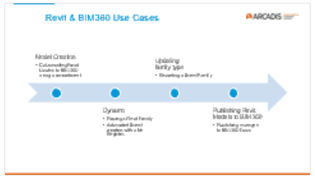



RPA Adoption Across Processes And Industries
UiPath


Pain Points

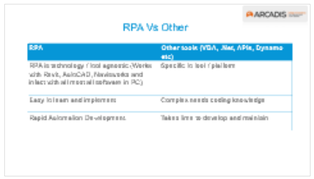

Pain Points


DIGITAL ASSET LIFE CYCLE


Revit & BIM360 Use Cases

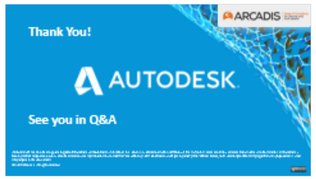

What do you need to do RPA?


Demo
Everything running on screen during this demo is run by BOT!!


RPA Vs Other

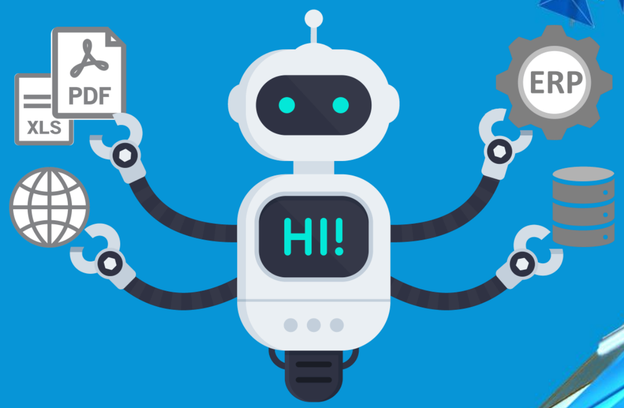

Digital Asset Life Cycle
Data Life Cycle


Future


Thank You!
AUTODESK.
See you in Q&A


IMPROVING QUALITY OF LIFE

AUTODESK. UNIVERSITY



Automate Boring Stuff in Autodesk using RPA

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Arcadis Water EMU BIM Manager | @

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Agenda

- About Arcadis
- RPA Introduction
- Pain Points
- Revit and BIM360 RPA Use Cases
- Demo
- Benefits and Future

A software bot per person is going to be a reality soon

Source: https://www.uipath.com/rpa/robot-every-person

About the speaker

Shahansha Shaik

Working in Arcadis India as Automation Lead.

11 years of experience in software development.

About the speaker

Ashuthosh Sabnis

Working in Arcadis India as BIM Manager. 9 years of experience in BIM and AEC industry. Expert in Autodesk Revit, Civil 3D, BIM 360 and Dynamo.

Learning Objectives

LEARNING OBJECTIVE 1

Know about Robotic Process Automation

LEARNING OBJECTIVE 2

Power of RPA and its Use cases

LEARNING OBJECTIVE 3

Understand how RPA can benefit AEC industry

LEARNING OBJECTIVE 4

Discover how to combine RPA and Autodesk

Arcadis at a Glance

- **We are the leading global natural and built asset design & consultancy firm working in partnership with our clients to deliver exceptional and sustainable outcomes through the application of design, consultancy, engineering, project and management services.**

2018

Best Management Consulting Firms

Forbes

#5

Top 225 International Design Firms (2018)

Engineering News Record

#12

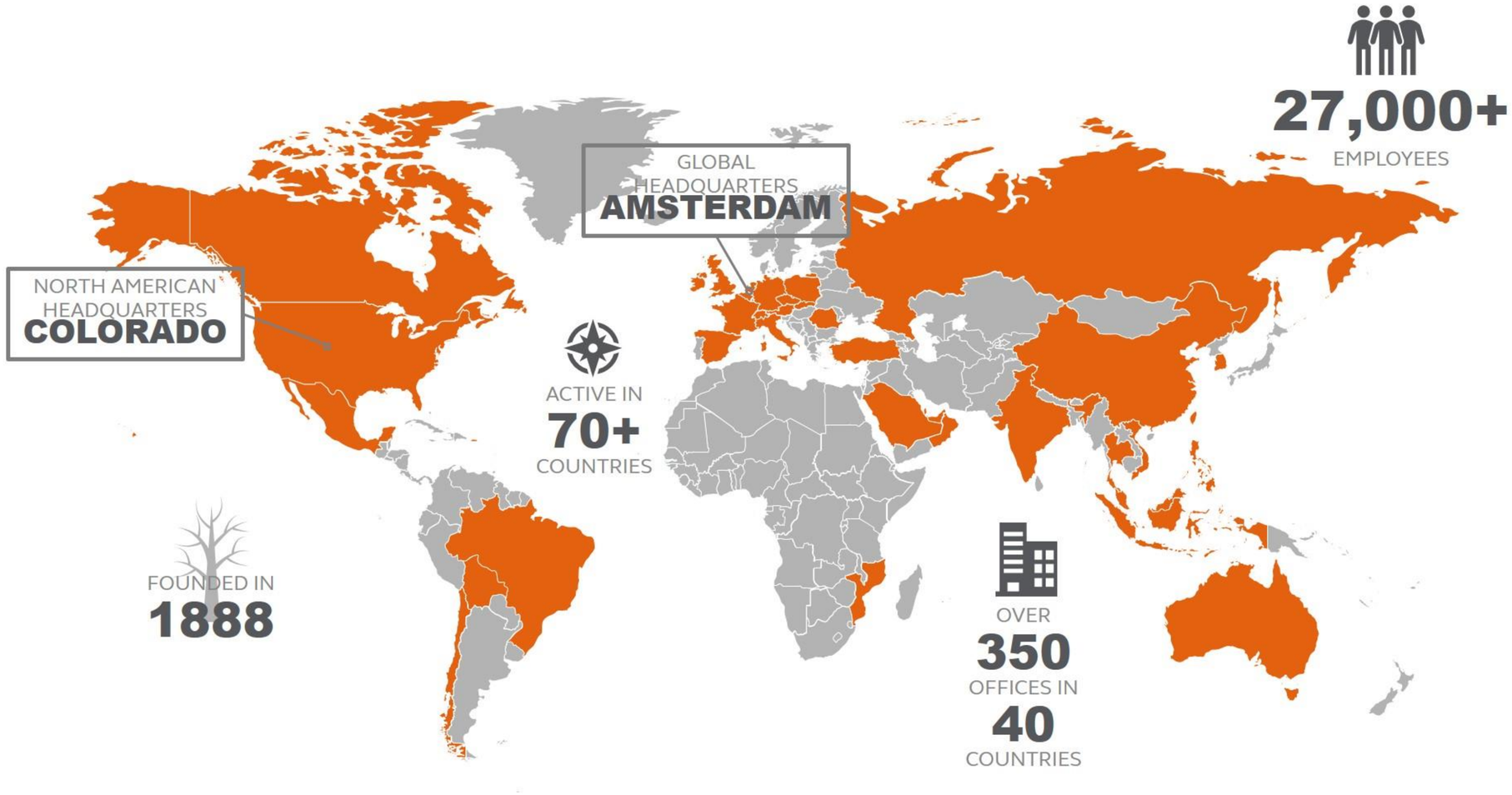
Top 200 Environmental Firms (2018)

Engineering News Record

We Address the World's Most Pressing Challenges

Global Reach

Our global network seamlessly brings together our **knowledge and experience of projects worldwide…**

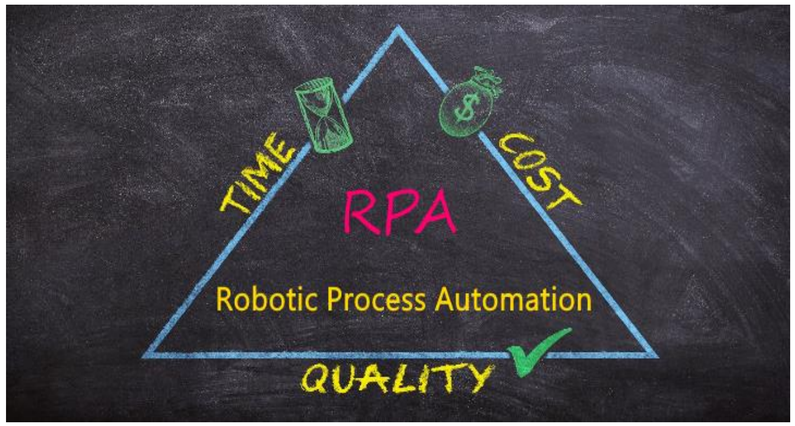


RPA Introduction

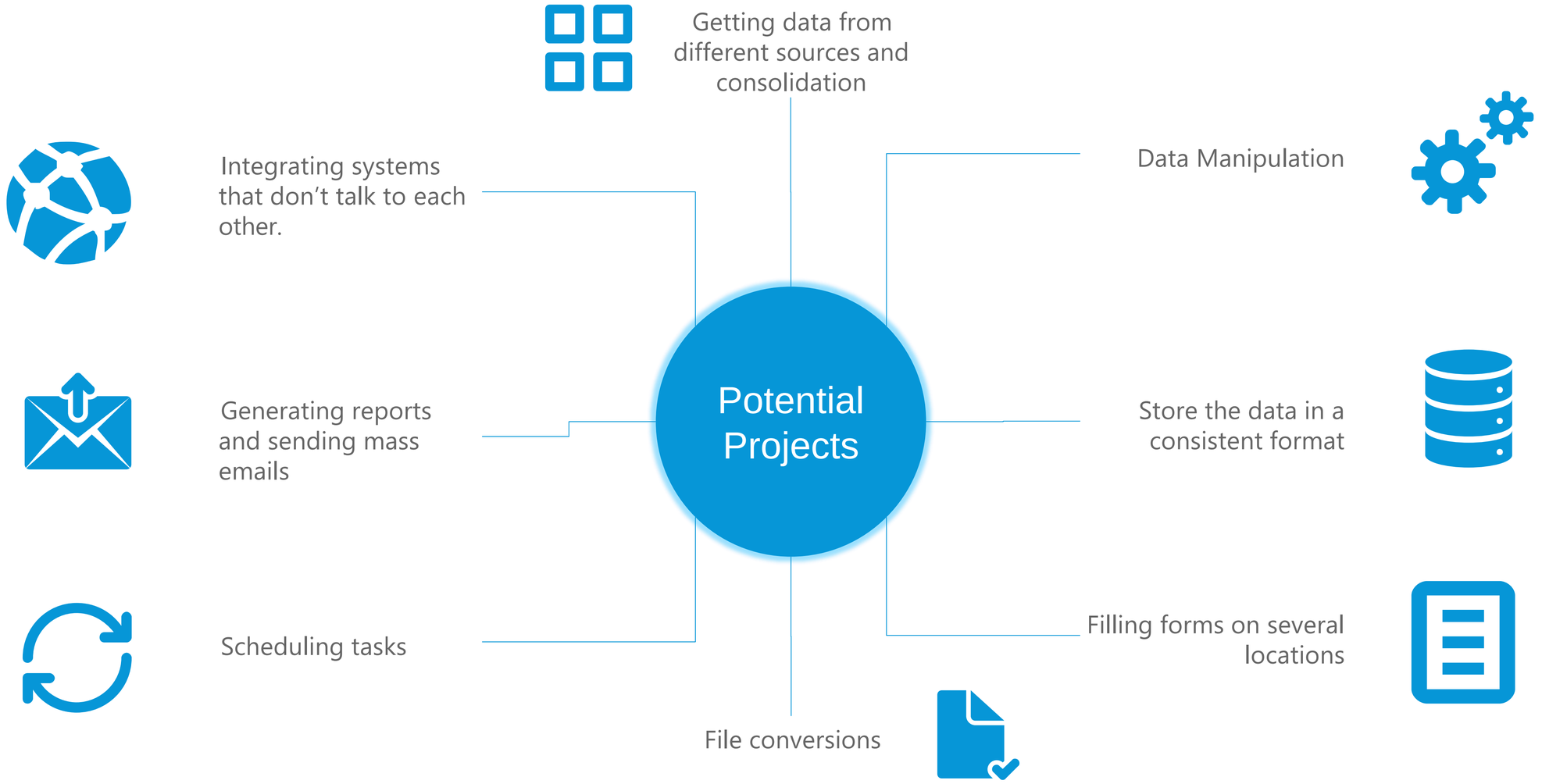
Robotic Process Automation

- RPA is the process that enables the creation of software robots to automate any rule-based business processes.
- Think of them as your digital workforce.
- Train your bots what to do, then let them do the work.

- Robotic automation uses a computer (a.k.a. robot) to run application software in the exact same way that a person works with that software
- RPA aims to replace repetitive tasks performed by humans, with a virtual workforce. Humans then make judgmental calls, handle exceptions and provide oversight



RPA Key Areas

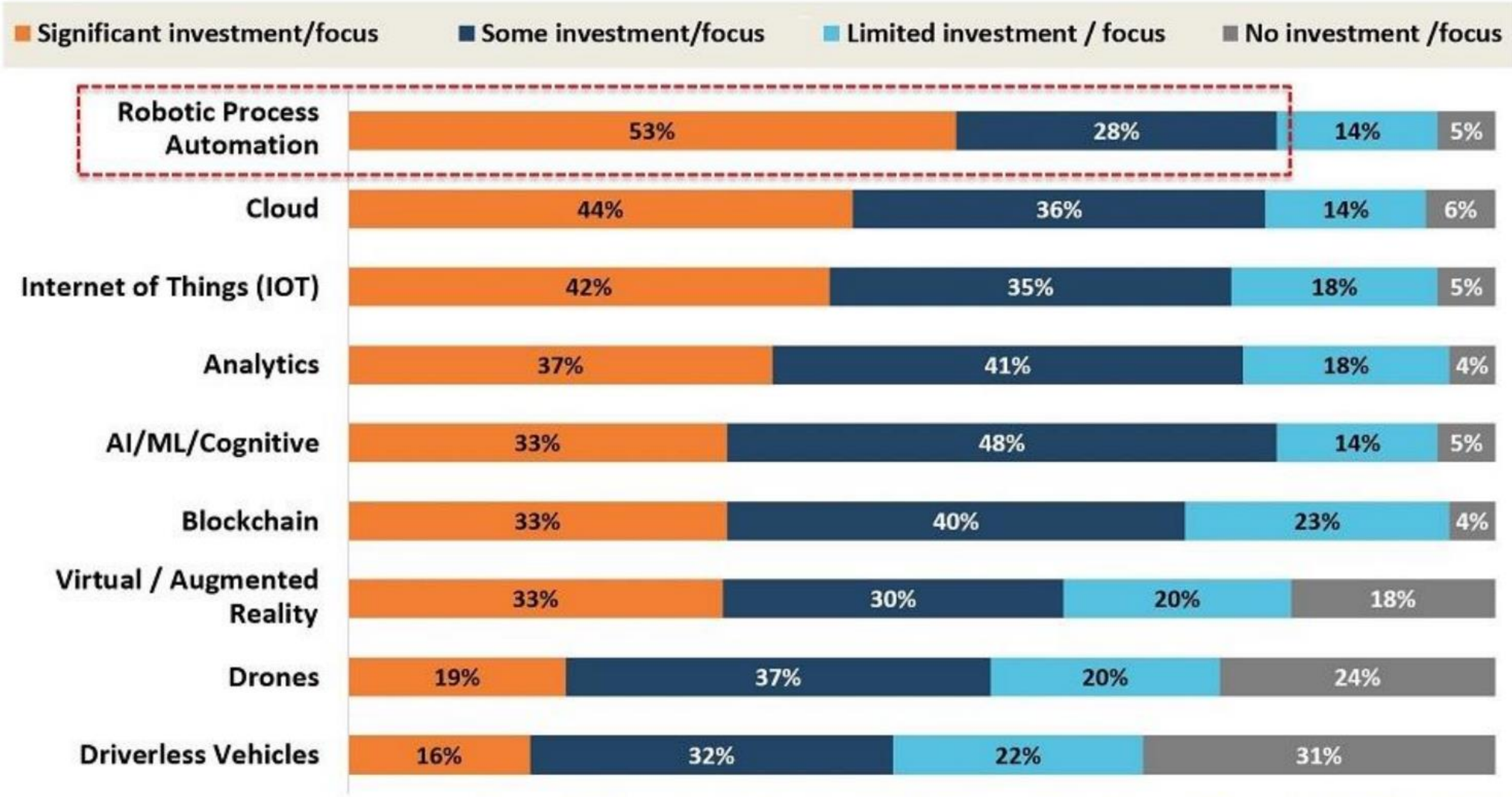


RPA Tools

- **UIPath**
- Blueprism
- Automation Anywhere
- Microsoft Power Automate Desktop

Source: Gartner (July 2020)

Q. Over the next year, how much investment/focus is your organization making year to help you achieve operational cost saving goals?



Source: HfS Research in Conjunction with KPMG, "State of Operations and Outsourcing 2018, March, 2018
Sample: (Interim Data) Enterprise Buyers (Global 2000) = 250

RPA Adoption Across Processes And Industries

RPA is high priority for most global in-house centres

The Leading Enterprise RPA Platform

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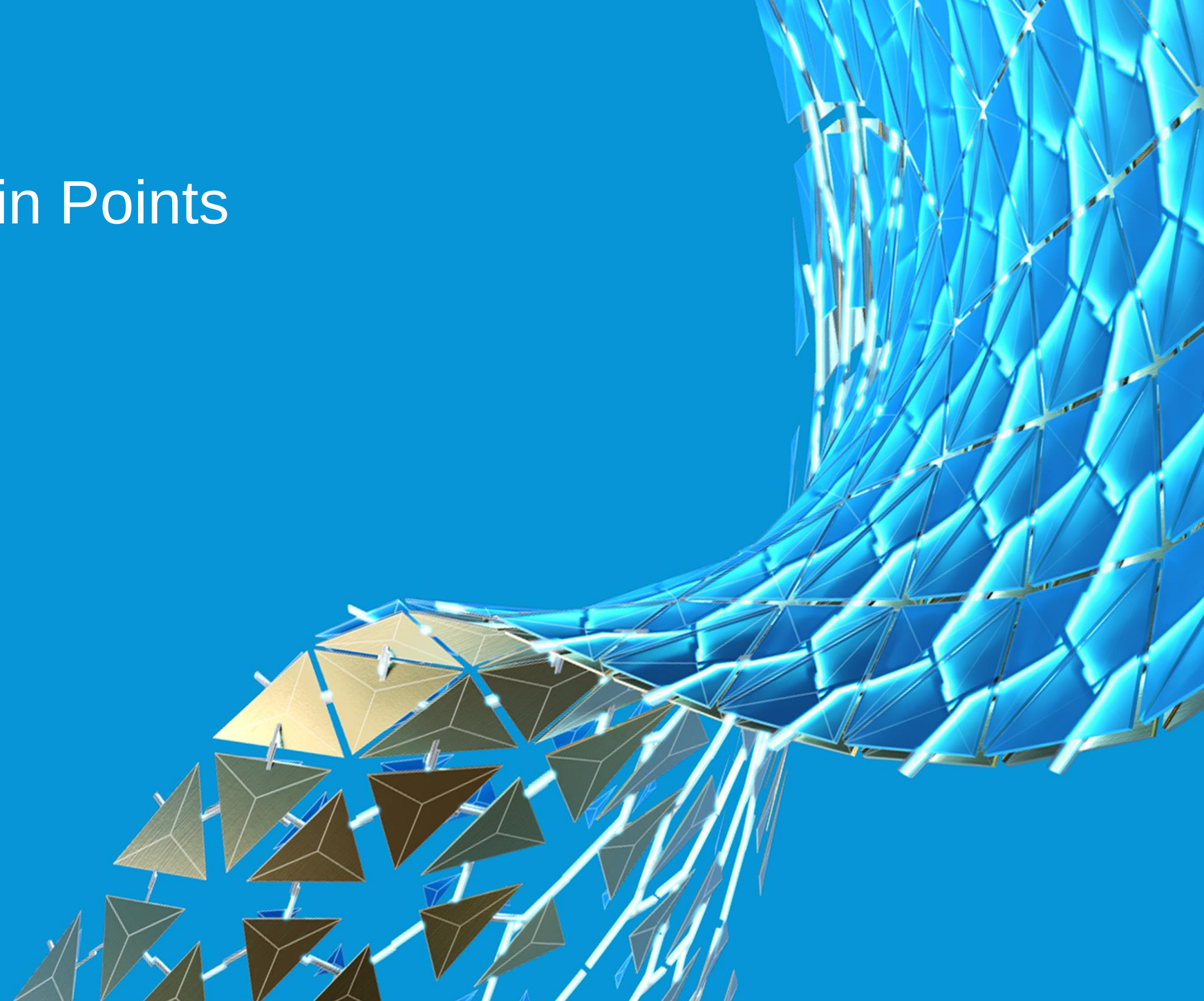
UiPath

	FINANCE AND ACCOUNTING	PROCUREMENT	HUMAN RESOURCES	CONTACT CENTER	INDUSTRY SPECIFIC PROCESSES	
BANKING	●	◐	◐	◐	●	Cards activation Frauds claim discovery
INSURANCE	◐	○	○	◐	●	Claims processing New business preparat
HEALTHCARE	◐	◐	◐	◐	●	Reports automation System reconciliation
MANUFACTURING	●	◐	◐	○	○	Bills of Material genera
HI-TECH&TELECOM	◐	◐	○	◐	◐	Service order managen Quality reporting
ENERGY&UTILITIES	◐	◐	◐	◐	◐	Account setup Meter reading validati
	Accounts receivable, Accounts Payable, General Ledger	Invoice processing, from requisition to issue of purchase order	Payroll, hiring, data management	Customer service		

RPA ADOPTION EXTENT

- High ●
- Medium ◐
- Low ○

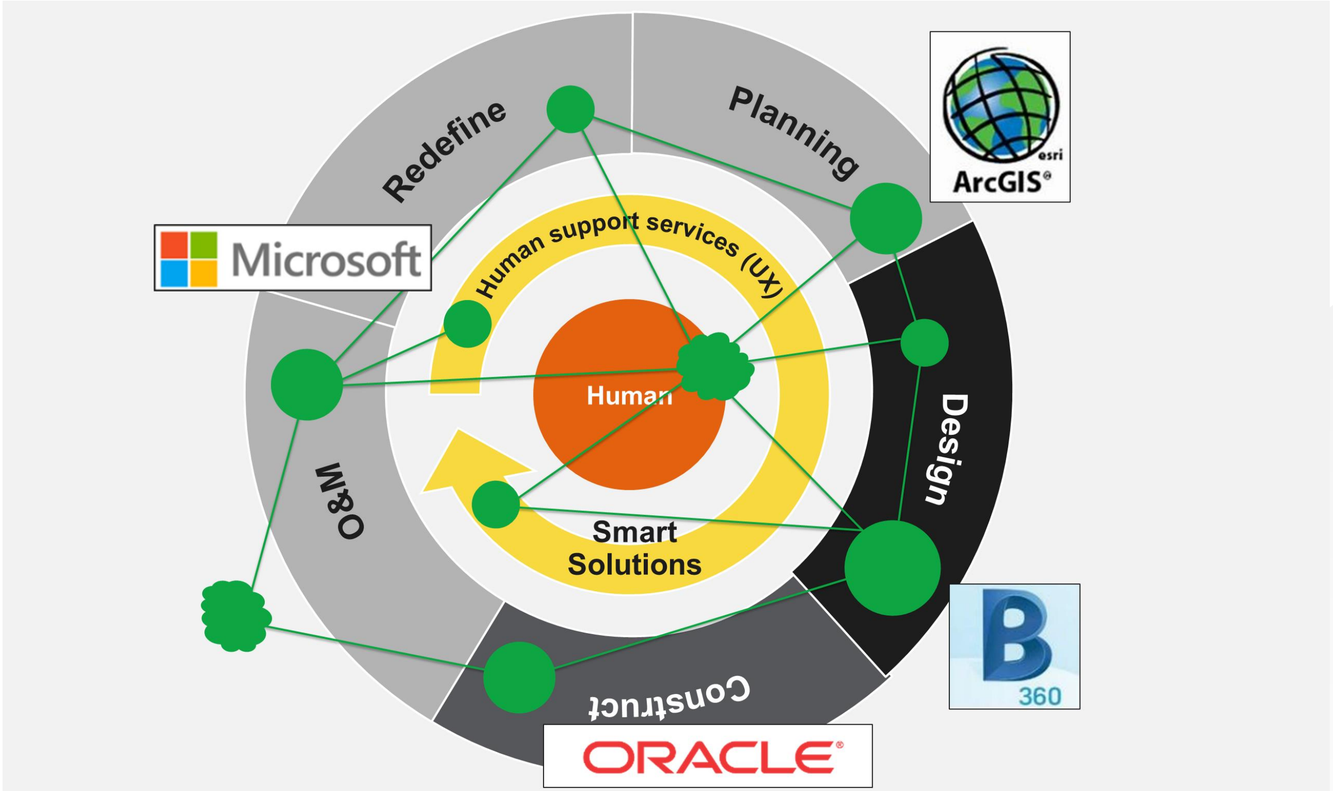
Pain Points



Pain Points

- Engineers have a lot of daily manual repetitive tasks
- Mostly 30% of processes are same for all most all types of projects which is being done manually.
- Design automation is hard and very specific to the tool / technology / platform

DIGITAL ASSET LIFE CYCLE



The Digital Asset Lifecyle approach is a critical step in realizing our vision

Pre-Contract BEP
- Response to EIR
- Milestones
- Capability

Post-Contract BEP
- Detailed BIM Execution Plan

Implementation
- Kick off Meeting with all stake holders

CDE
- BIM 360
- The Single Source of Truth

Volume Strategy
- Strategizing Model segregation
- MIDP

Model Creation
- Creation of Multi-Disciplinary Models

Model Extractions
- Drawings
- Quantities
- Cost

Validation
- Model Validations
- QA / QC

Analytics & Visualization
- AR / VR
- Walkthrough
- Renderings

Handover
- Operation & Maintenance

RPA bot

Revit & BIM360 Use Cases

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Model Creation

- Collaborating Revit Models to BIM 360 using a spreadsheet

Dynamo

- Placing a Revit Family
- Automated Sheet creation with a file Register.

Updating family type

- Reloading a Sheet Family

Publishing Revit Models to BIM 360

- Publishing changes to BIM 360 Docs

What do you need to do RPA?

Basic things to start

PC

Repetitive Use case

RPA UIPath license

RPA expertise

Domain expertise

Demo

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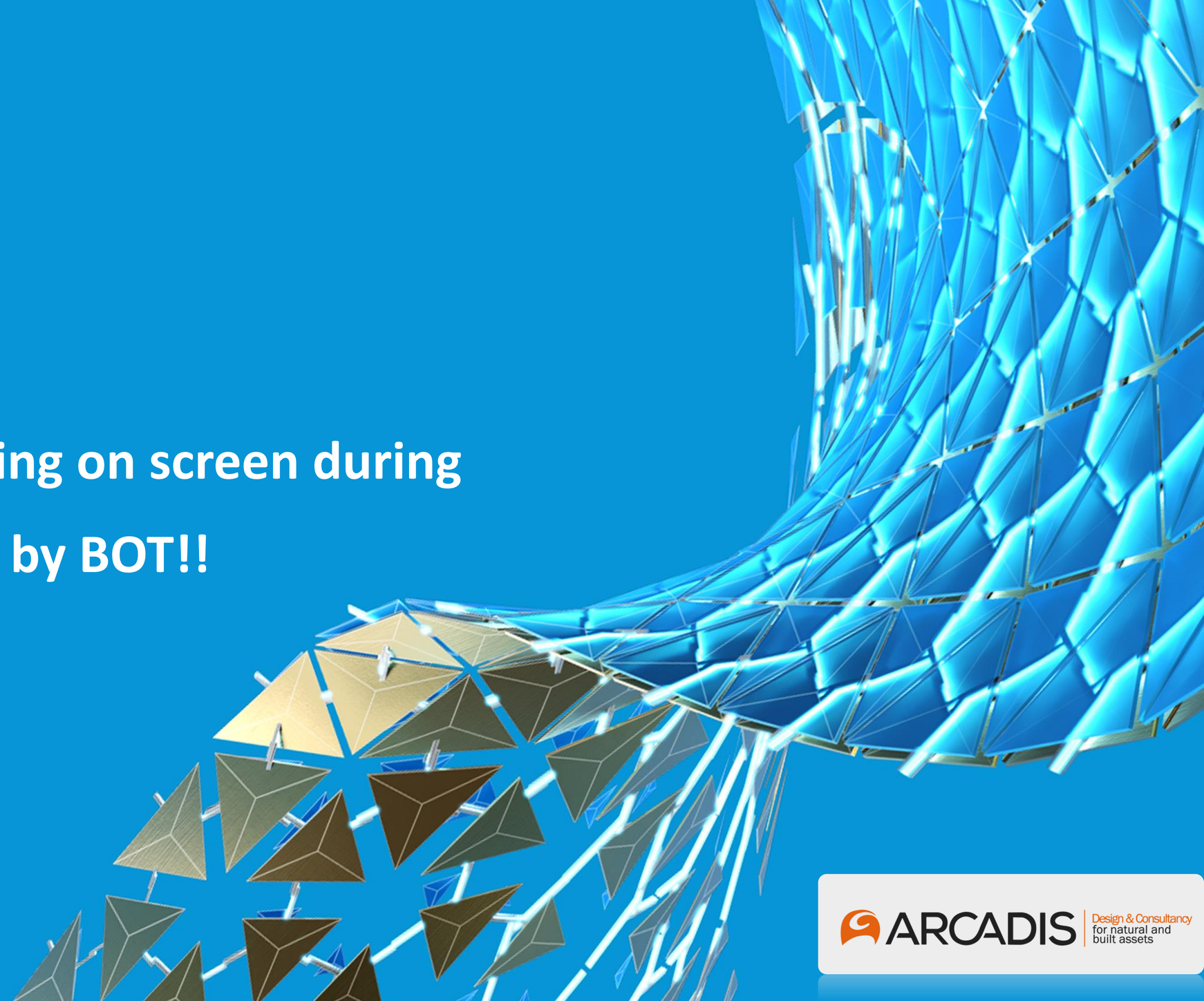

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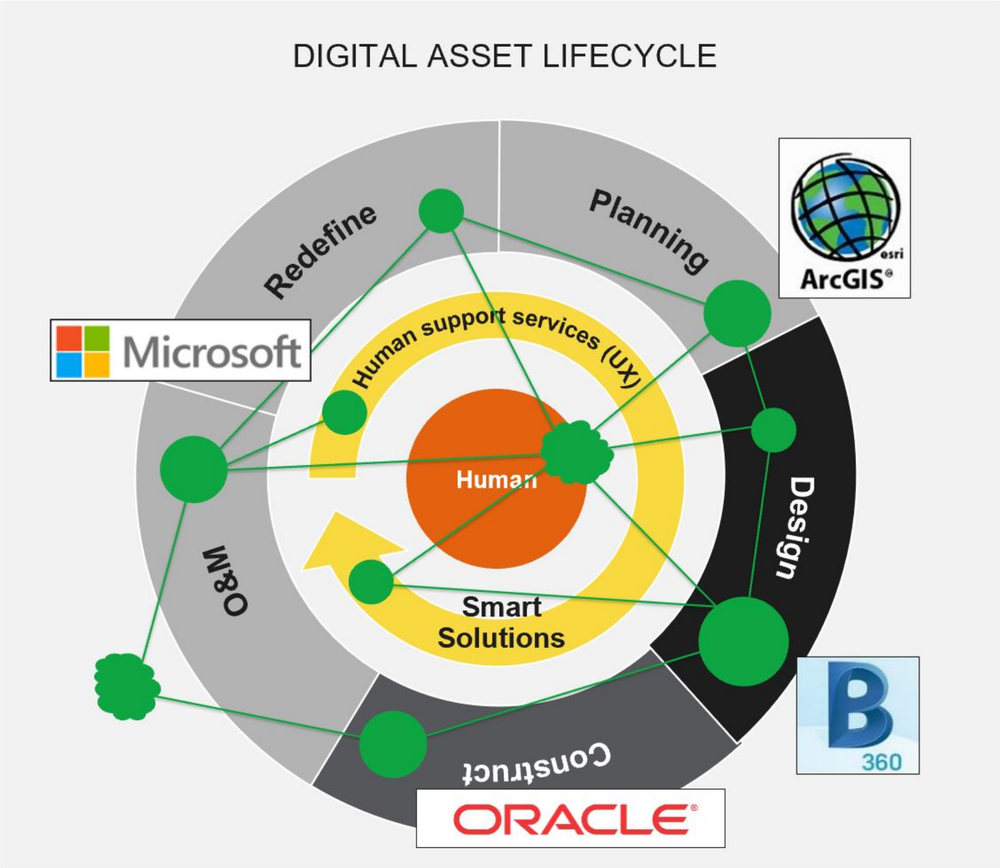
RPA Vs Other

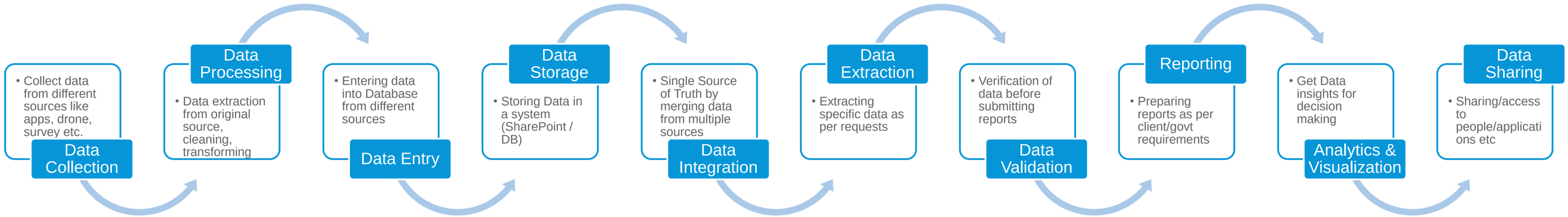
RPA	Other tools (VBA, .Net, APIs, Dynamo etc)
RPA is technology / tool agnostic (Works with Revit, AutoCAD, Navisworks and infact with all most all software in PC)	Specific to tool / platform
Easy to learn and implement	Complex needs coding knowledge
Rapid Automation Development	Takes time to develop and maintain

Digital Asset Life Cycle



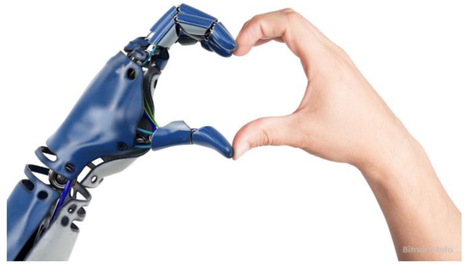
- **RPA Can connect the dots by interacting with multiple platforms in the asset and data life cycle**
- **D&E, PgE, CCM**

Data Life Cycle



Future

- A software bot for each person will be a reality soon
- Bot can do the end to end automation by interacting with multiple different software tools
- RPA Bot is not just for repetitive tasks, they are also getting intelligent with AI / ML, NLP and IoT interactions
- RPA to IPA (Robotic to Intelligent Process Automation)



References & Learning Opportunities

- https://www.udemy.com/course/uipath-rpa-tutorial-0-to-advanced-robotic-process-automation-developer/ by Sha
- www.Shahansha.com
- https://www.uipath.com/rpa/robot-every-person
- https://www.uipath.com/resources/automation-analyst-reports/gartner-magic-quadrant-robotic-process-automation

Thank You!

See you in Q&A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IMPROVING
QUALITY OF LIFE