

***DIGITAL
TRANSFORMATION: THE
FUTURE OF SAUDI
CONSTRUCTION PROJECTS
IS NOW!***

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Vision 2030 Overview



Under the leadership of the Custodian of the Two Holy Mosques, Vision 2030 was launched, a roadmap drawn up by His Royal Highness the Crown Prince, to harness the strengths God bestowed upon us – our strategic position, investment power and place at the center of Arab and Islamic worlds. The full attention of the Kingdom, and our Leadership, is on harnessing our potential to achieve our ambitions.

In the past five years, we built a foundation, during which unprecedented reforms were made in the public sector's operating model, the economy and society as a whole. This laid the foundations of success for the future. We faced many challenges and gained a myriad of experiences, which boosted our confidence in achieving our future goals. We worked on improving the effectiveness and response of the government, unlocked opportunities for growth and investment, opened Saudi to the world, built and launched platforms for future growth, and increased citizens' quality of life. These achievements belong to the sons and daughters of this great nation.





The Vision was cascaded into **strategic objectives** to enable effective implementation through Vision Realization Programs.

Ambitious Nation

Enhance government effectiveness
Enable social responsibility



Thriving Economy

Grow & diversify the economy
Increase employment



Vibrant Society

Strengthen Islamic & national identity
Offer a fulfilling & healthy life



6
Level 1
Overarching Objectives

27
Level 2
Branch Objectives

96
Level 3
Strategic Objectives



Quality of Life Program



Fiscal Sustainability Program



Housing Program



Health Sector Transformation Program



Financial Sector Development Program



Doyof Al Rahman Program



National Transformation Program



Public Investment Fund Program



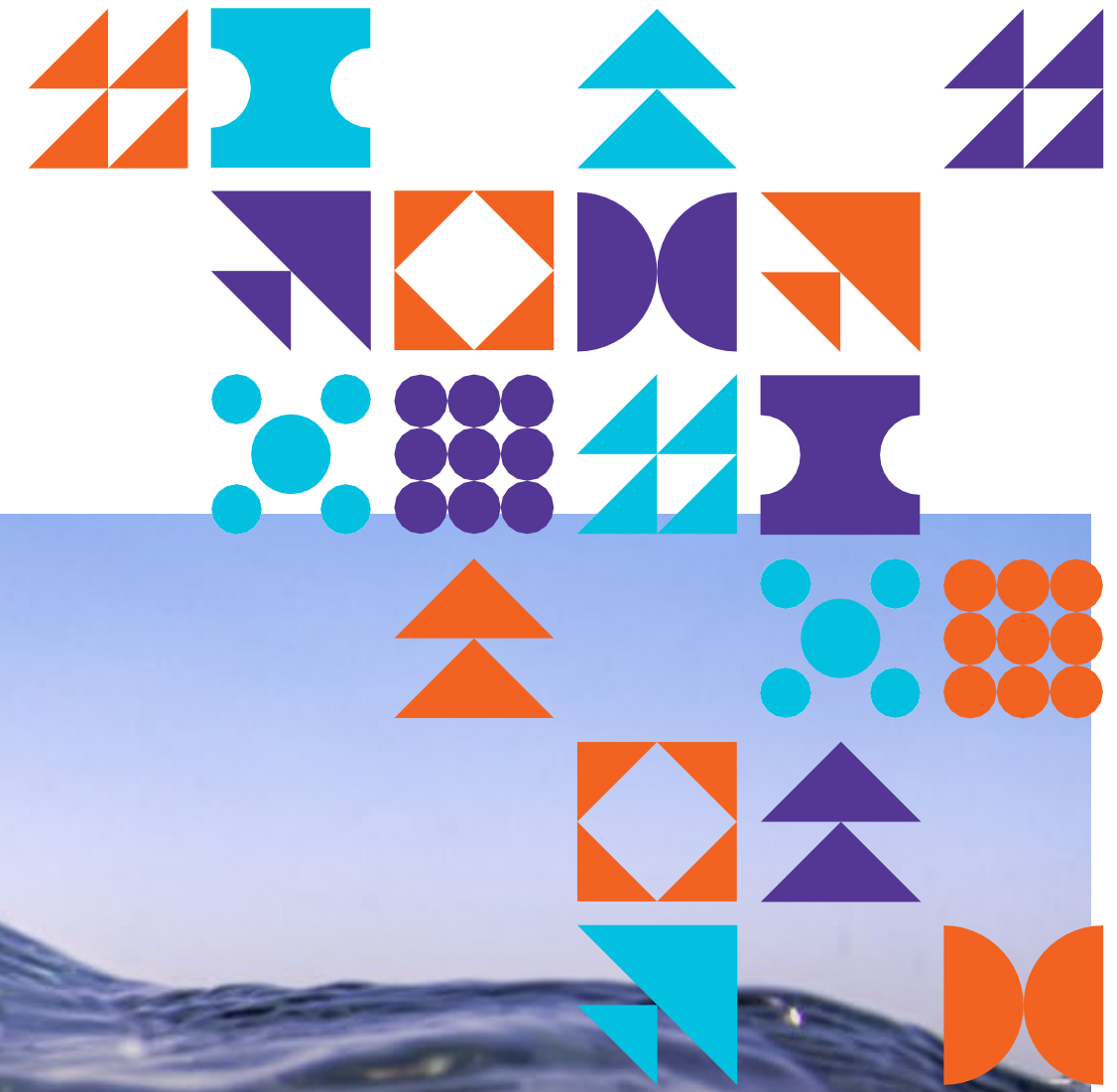
Privatization Program



National Industry Development & Logistics Program



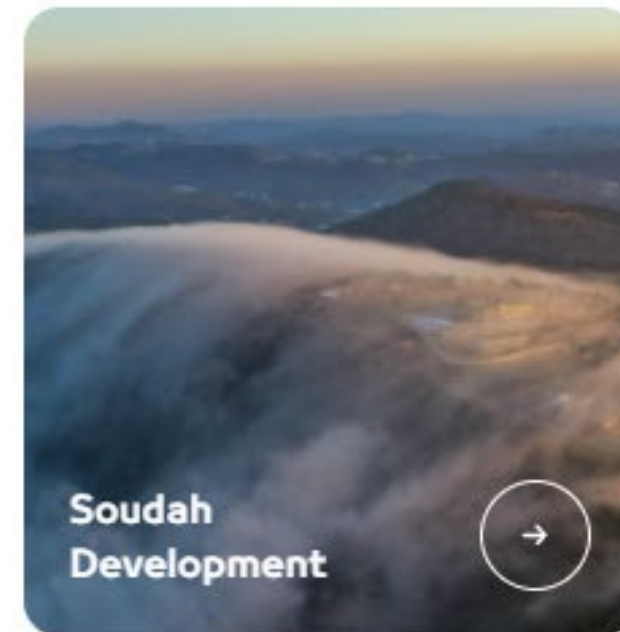
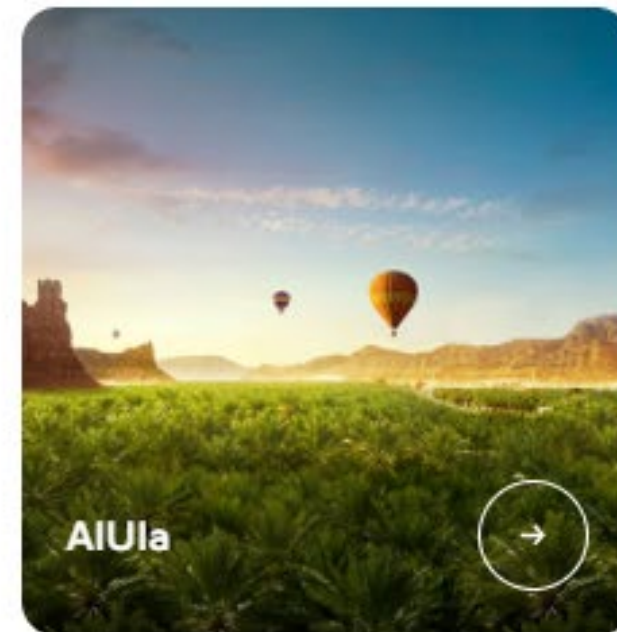
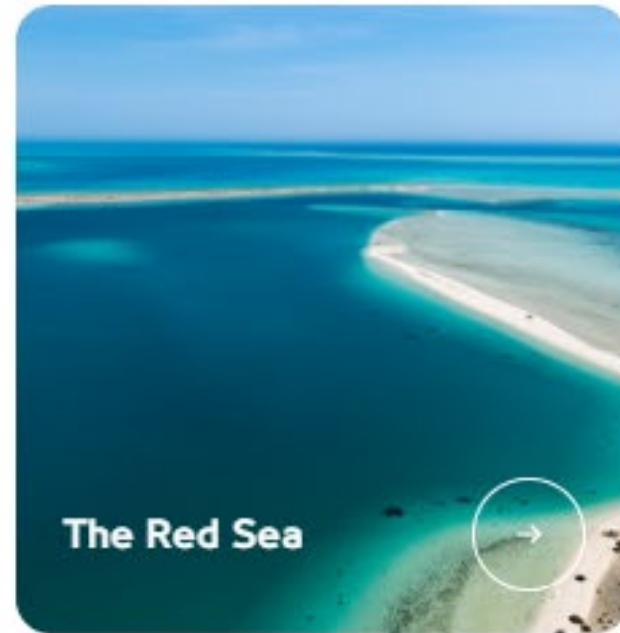
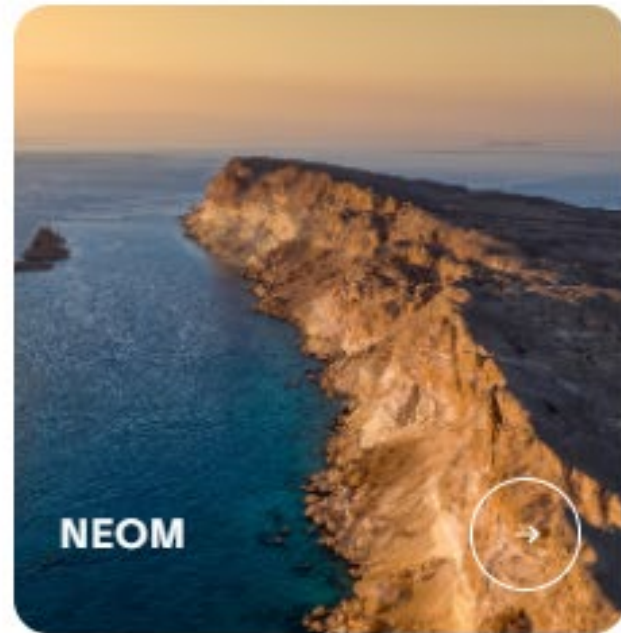
Human Capability Development Program

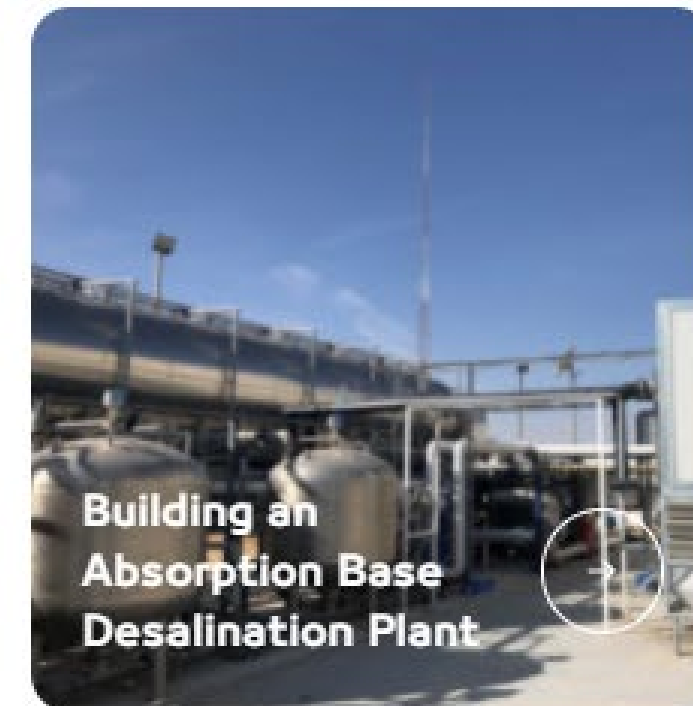
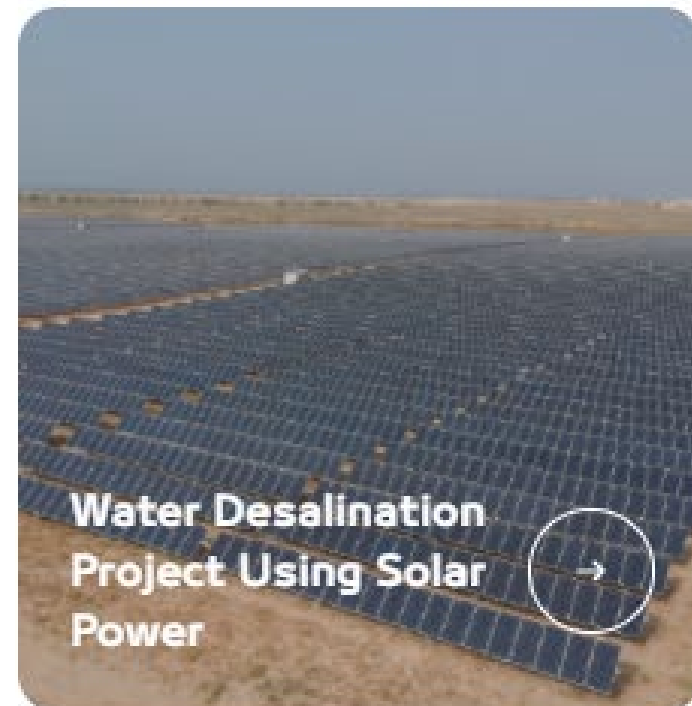
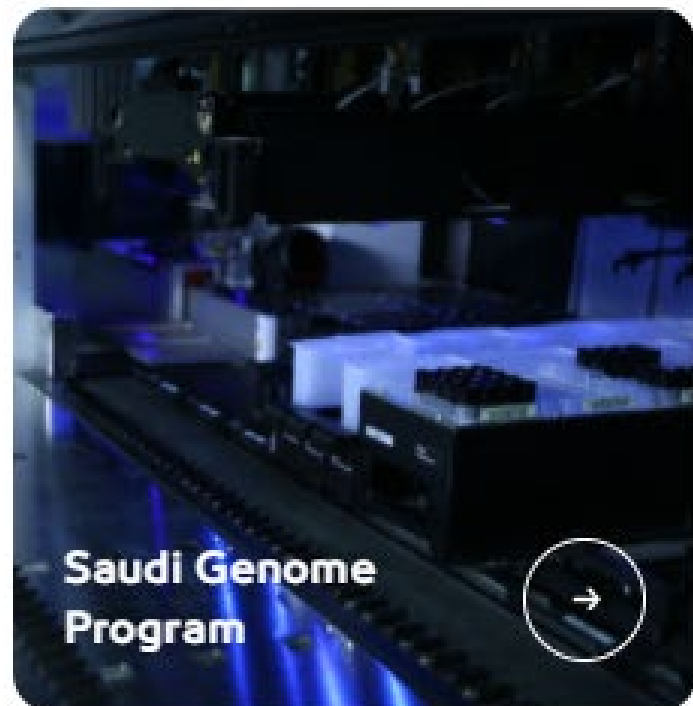
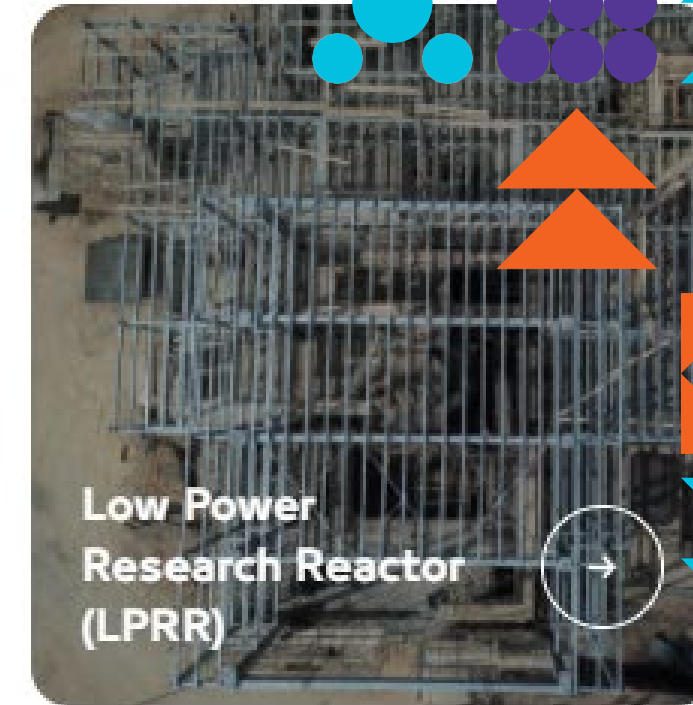
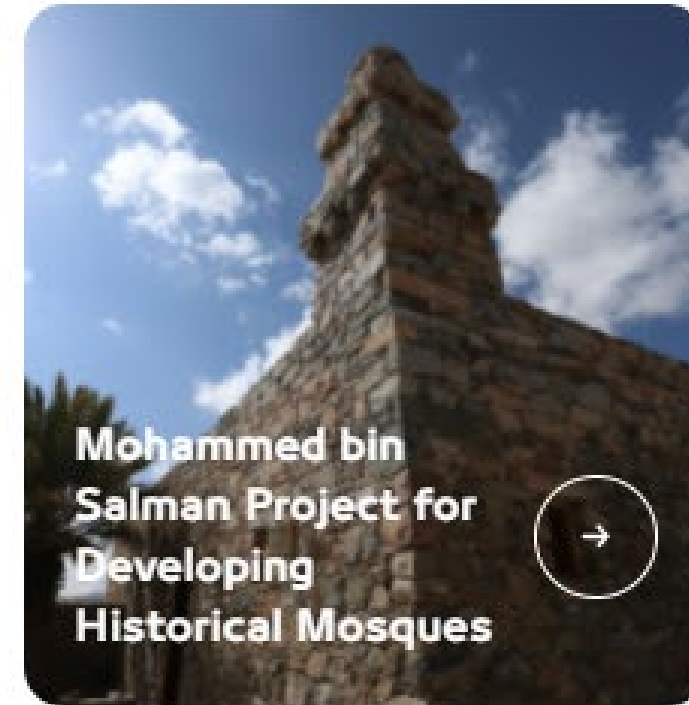
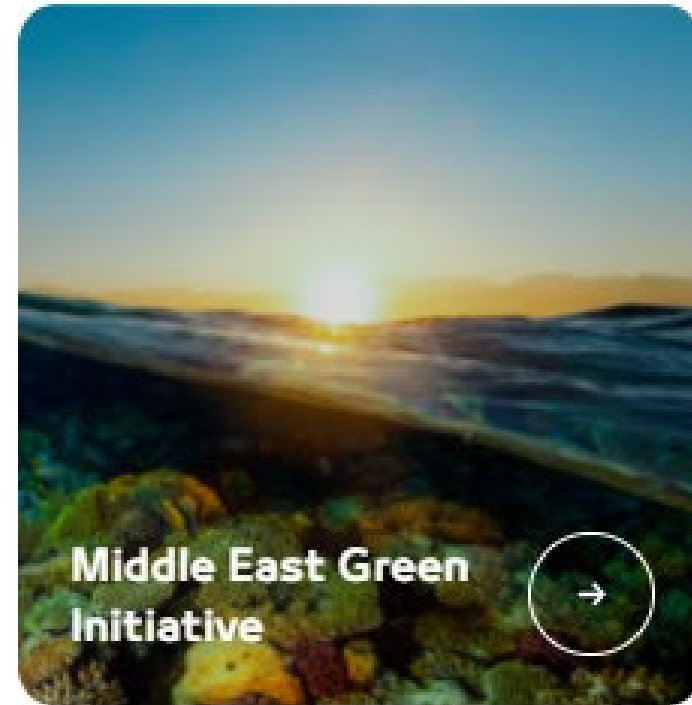
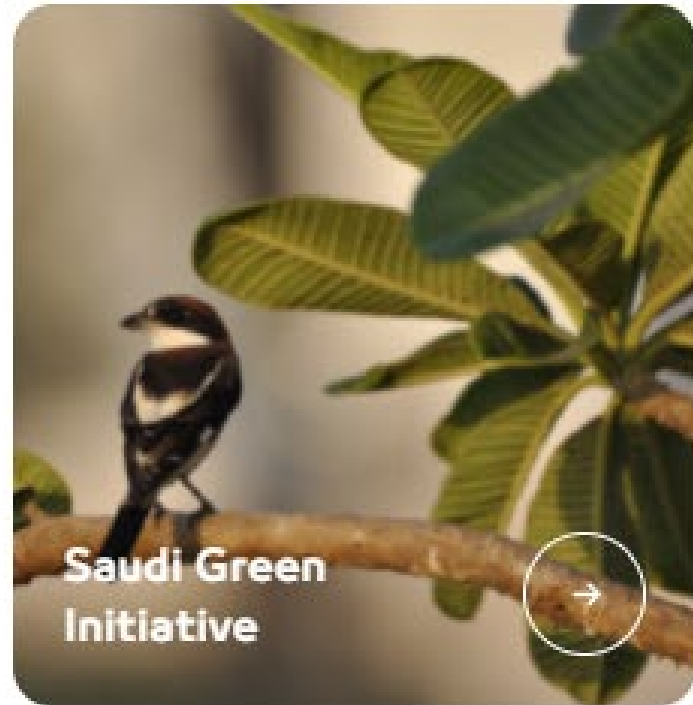


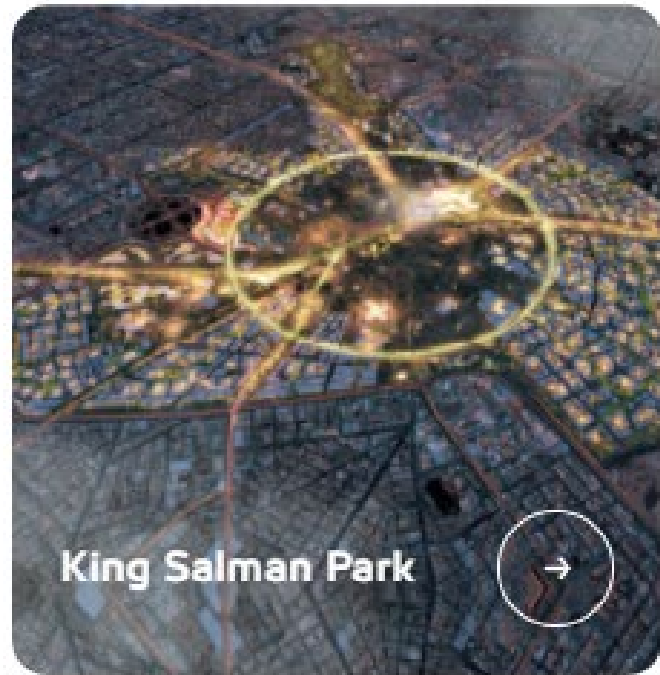
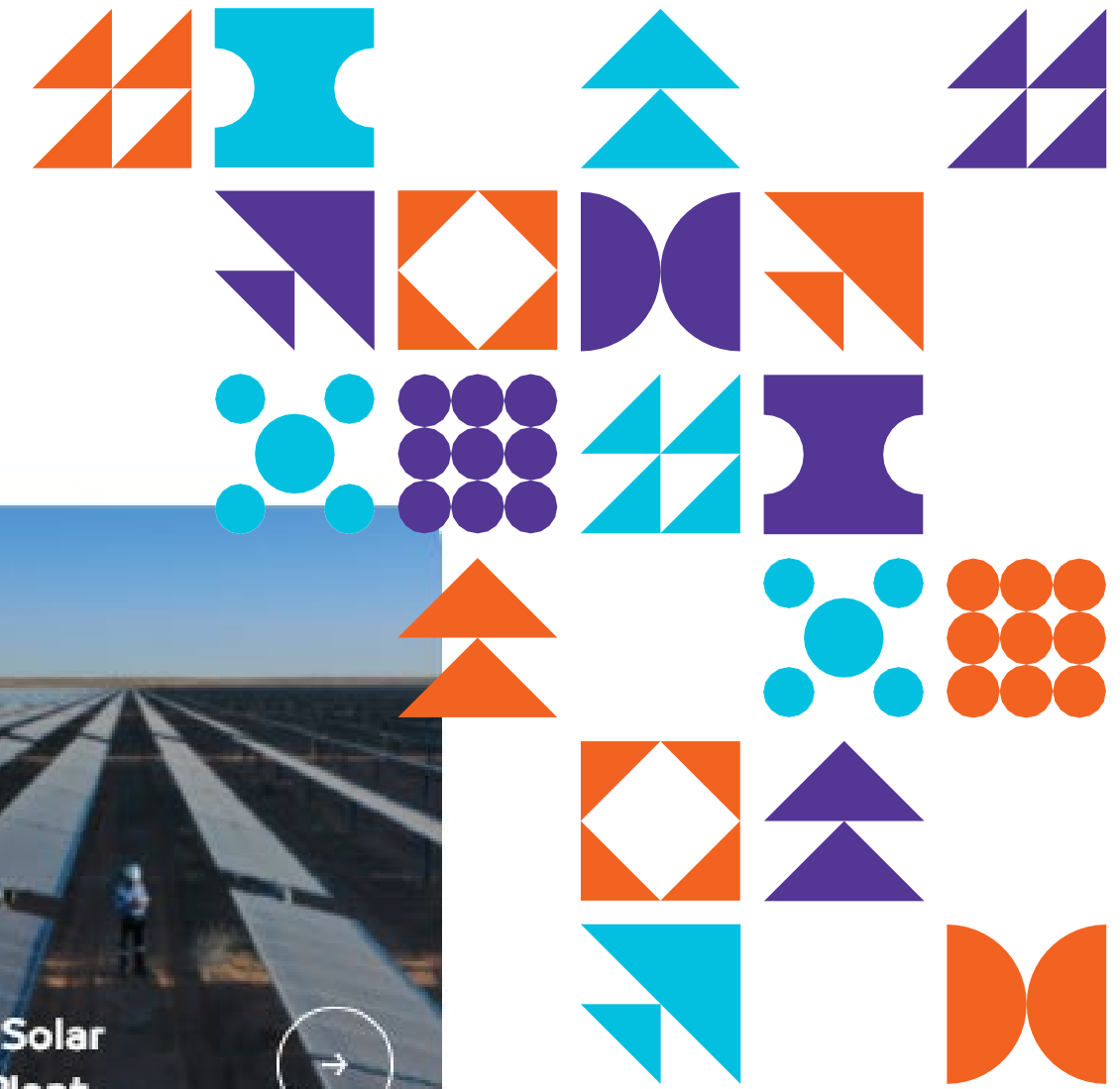
Vision 2030 Projects

Saudi Arabia's planned projects highlight the Kingdom's efforts toward economic, social, and cultural diversification and are the crown jewel of Vision 2030.

Each of these projects will open new areas of economic activity, create jobs and drive economic development in line with Vision 2030.







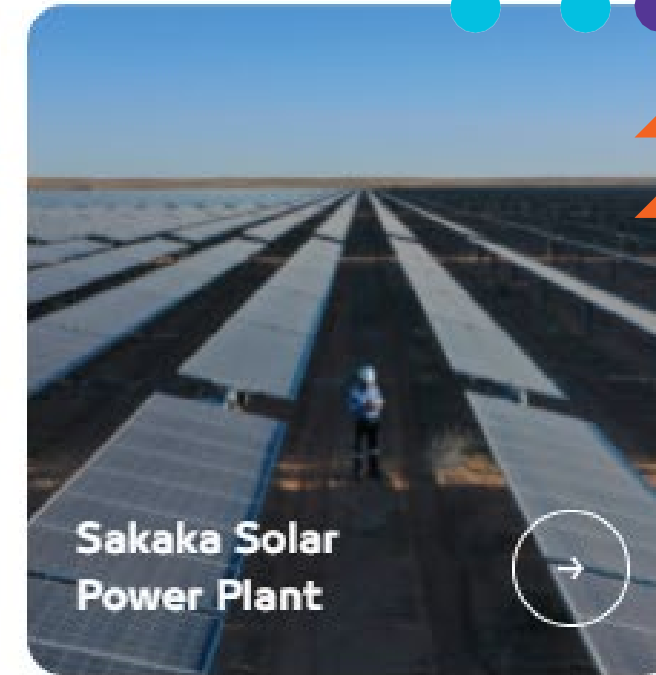
King Salman Park



Green Riyadh



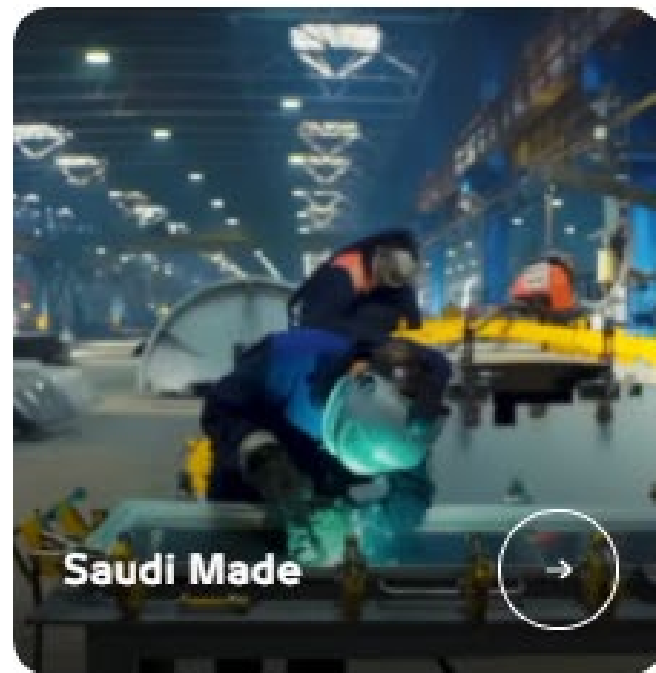
King Salman
Energy Park



Sakaka Solar
Power Plant



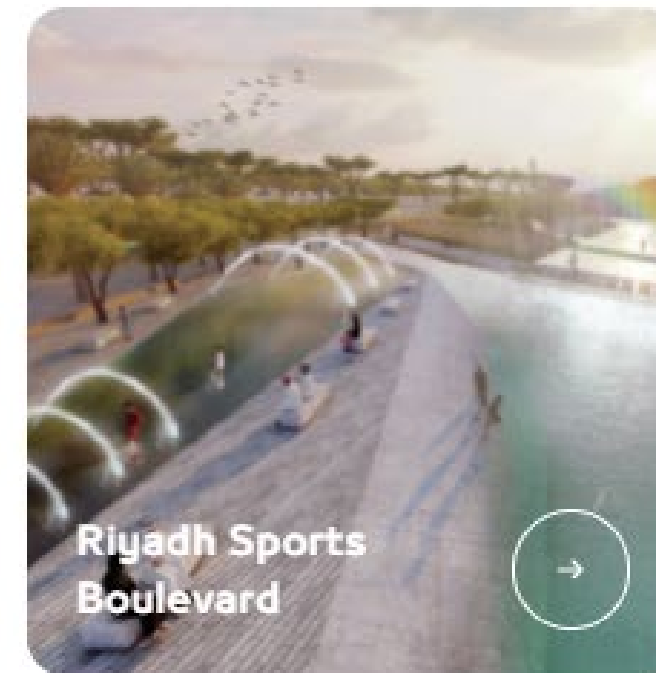
Composite
Aerostructure
Factory



Saudi Made



Riyadh Art



Riyadh Sports
Boulevard

Project Economy is a mandate

- New Projects and Programs are coming everyday, “Project Economy” is thriving in the Kingdom
- *The Project Economy is one in which people have the skills and capabilities they need to turn ideas into reality.*
- *The Project Economy is where organizations deliver value to stakeholders through successful completion of projects, delivery of products, and alignment to value streams.*
- Innovation is the new norm with increased focus on innovation, collaboration, agility and technology

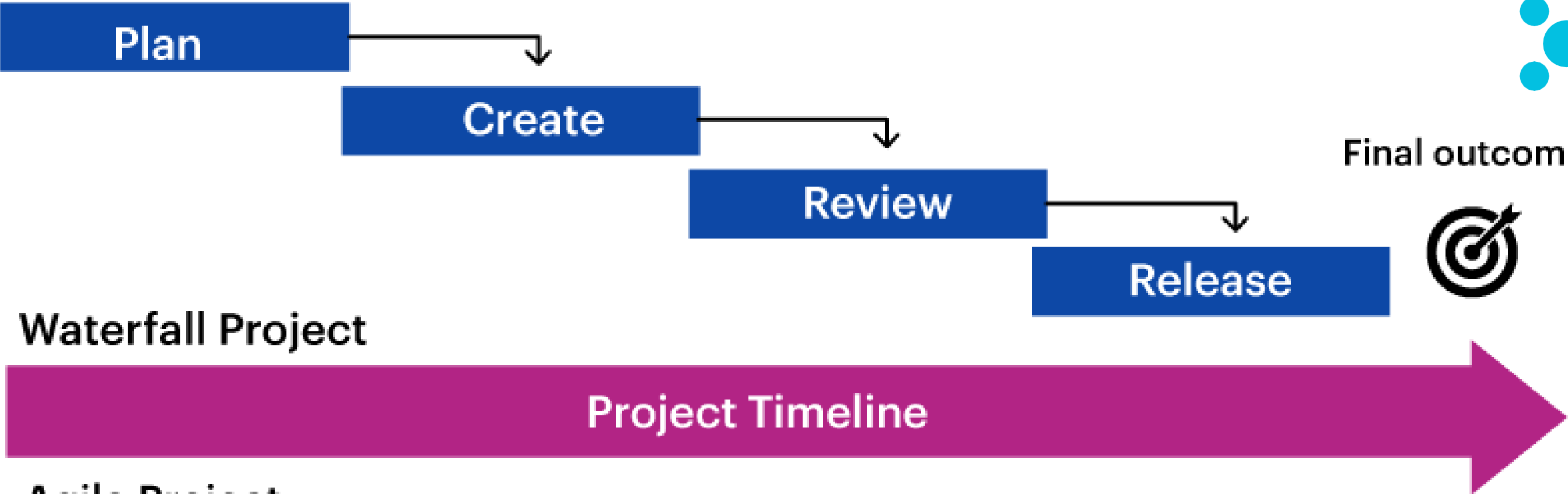


The Project

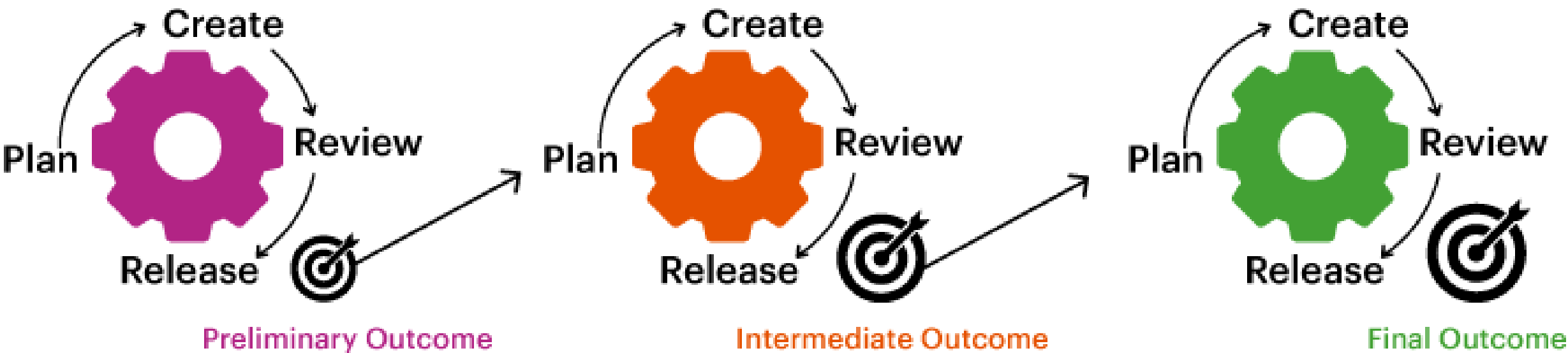
- *A dramatic shift has taken place.*
 - *We have left behind a century dominated by increasing efficiency, and*
 - *We are living in an always-changing environment and a massive proliferation of projects.*
- *Projects, rather than operations, are driving short-term survival and long-term value creation today and tomorrow.*
 - *Organizations of all kinds are running more projects than ever before.*
- *Projects used to be temporary tasks, whereas operations were permanent.*
 - *Now, changes are permanent, and operations are temporary tasks until the next change.*



Agile and Traditional Methodologies

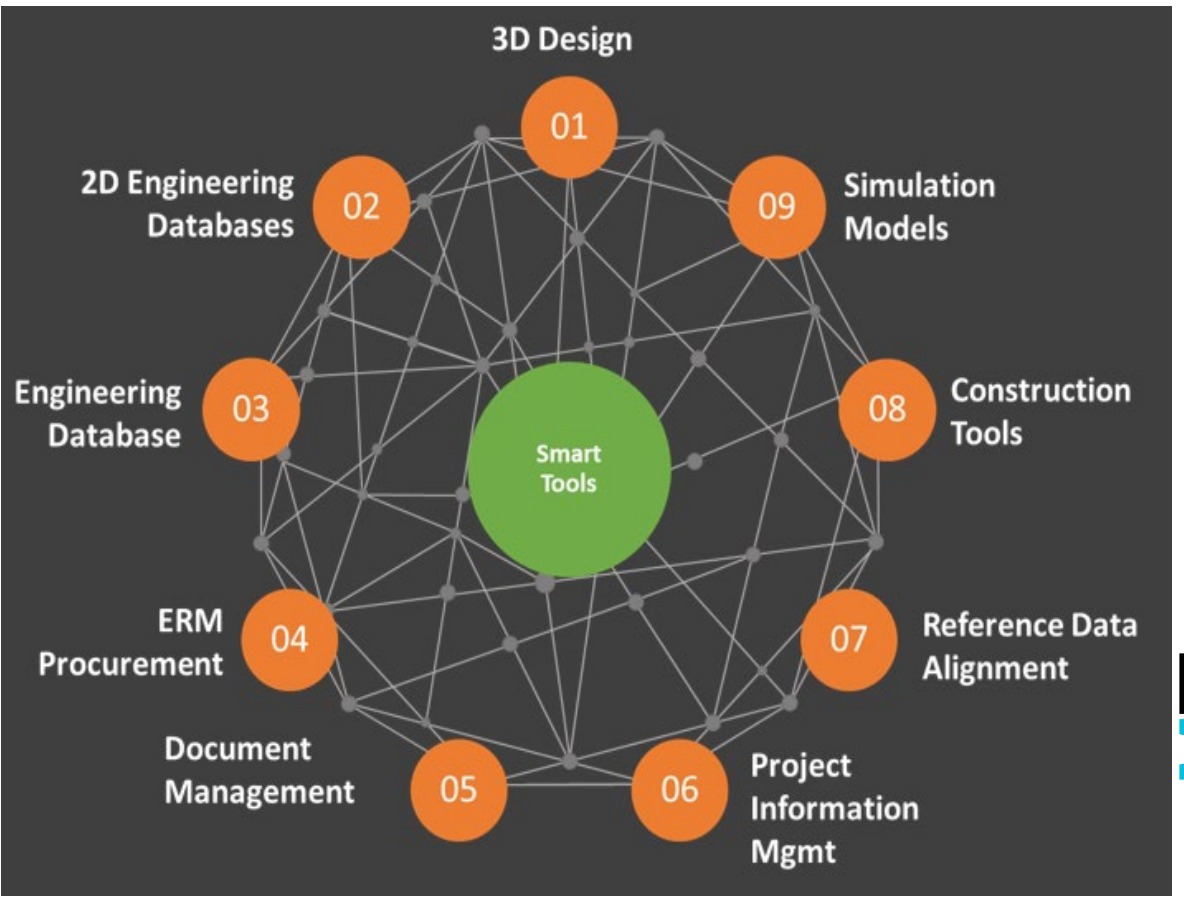
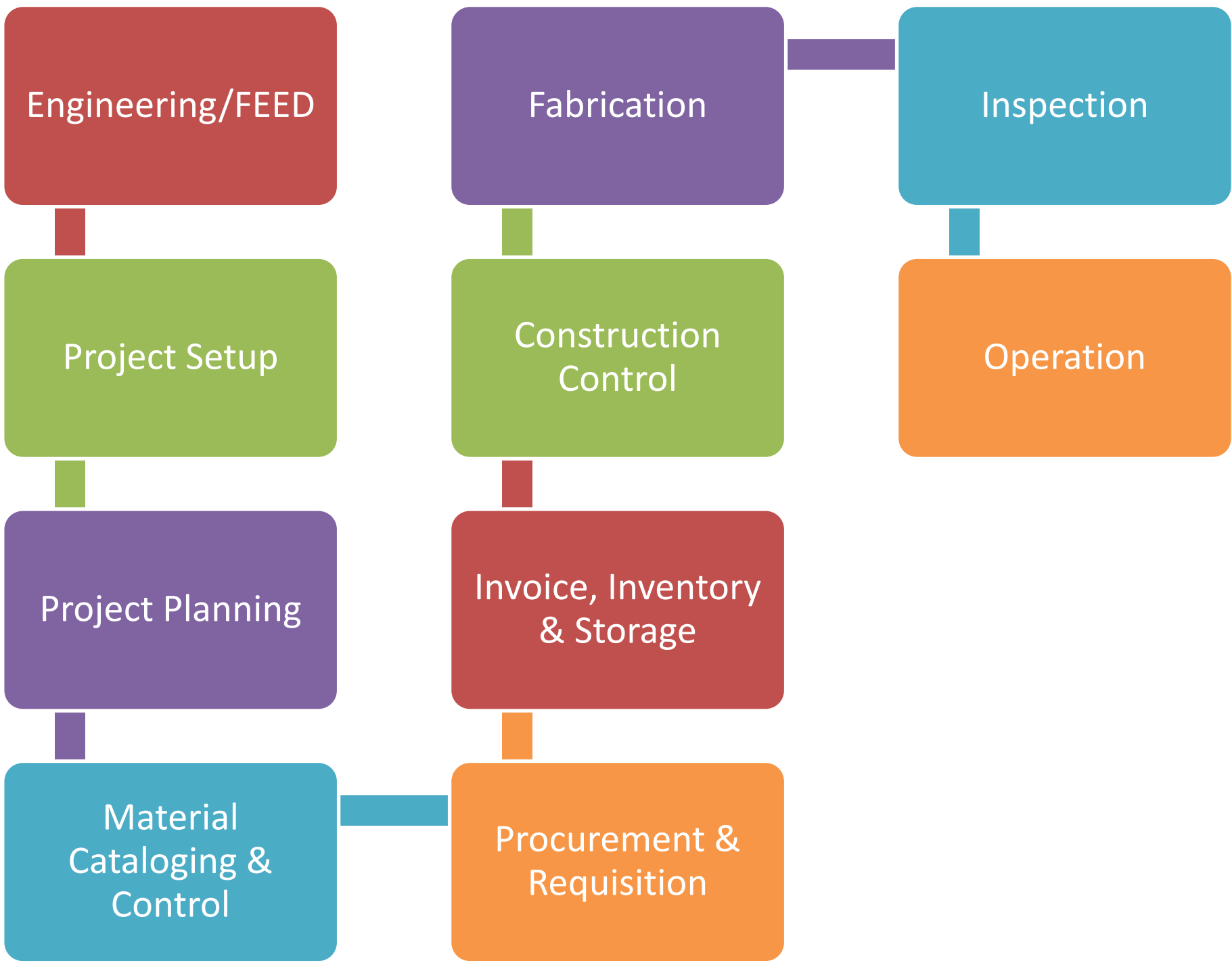
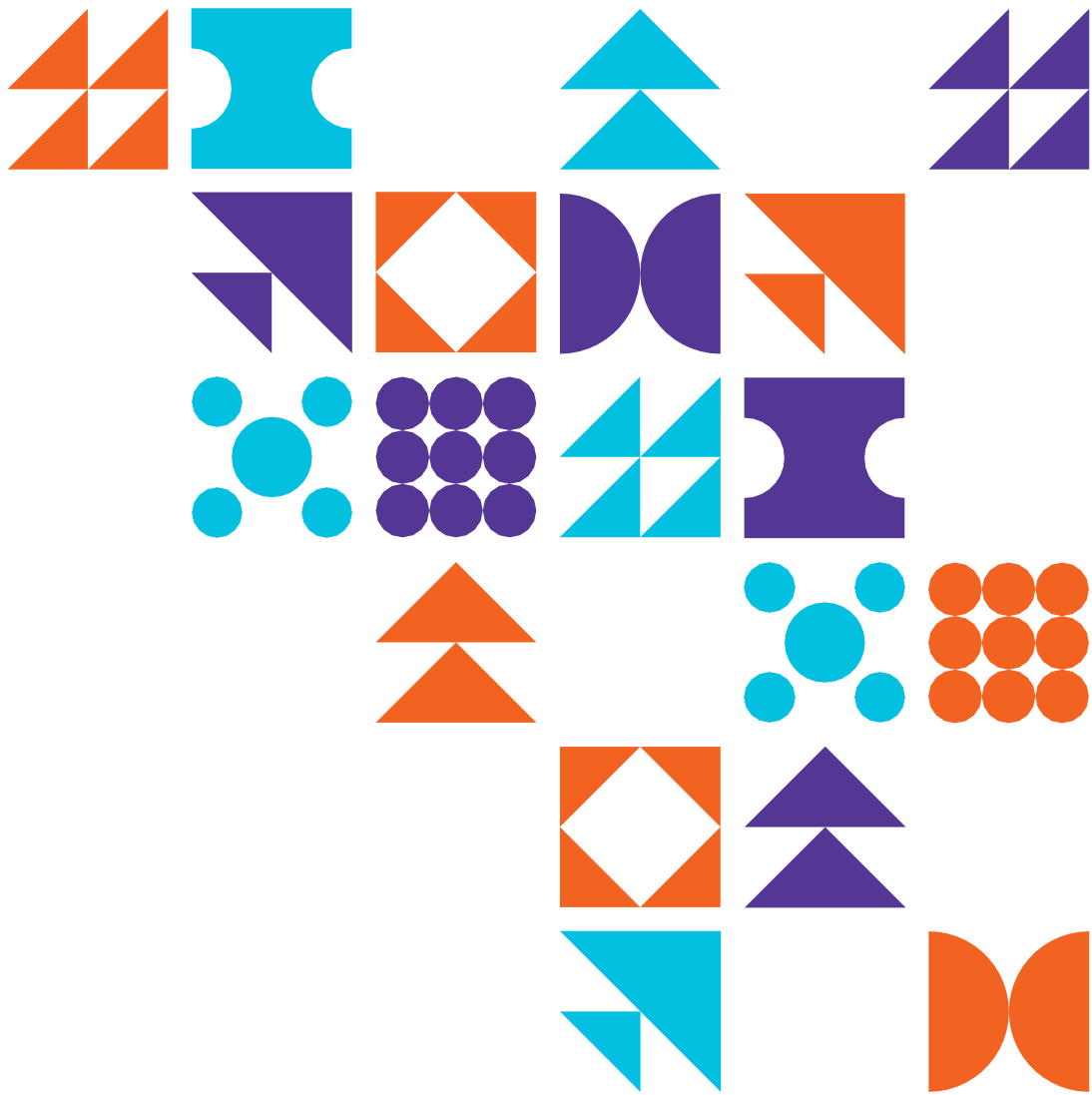


Agile Project

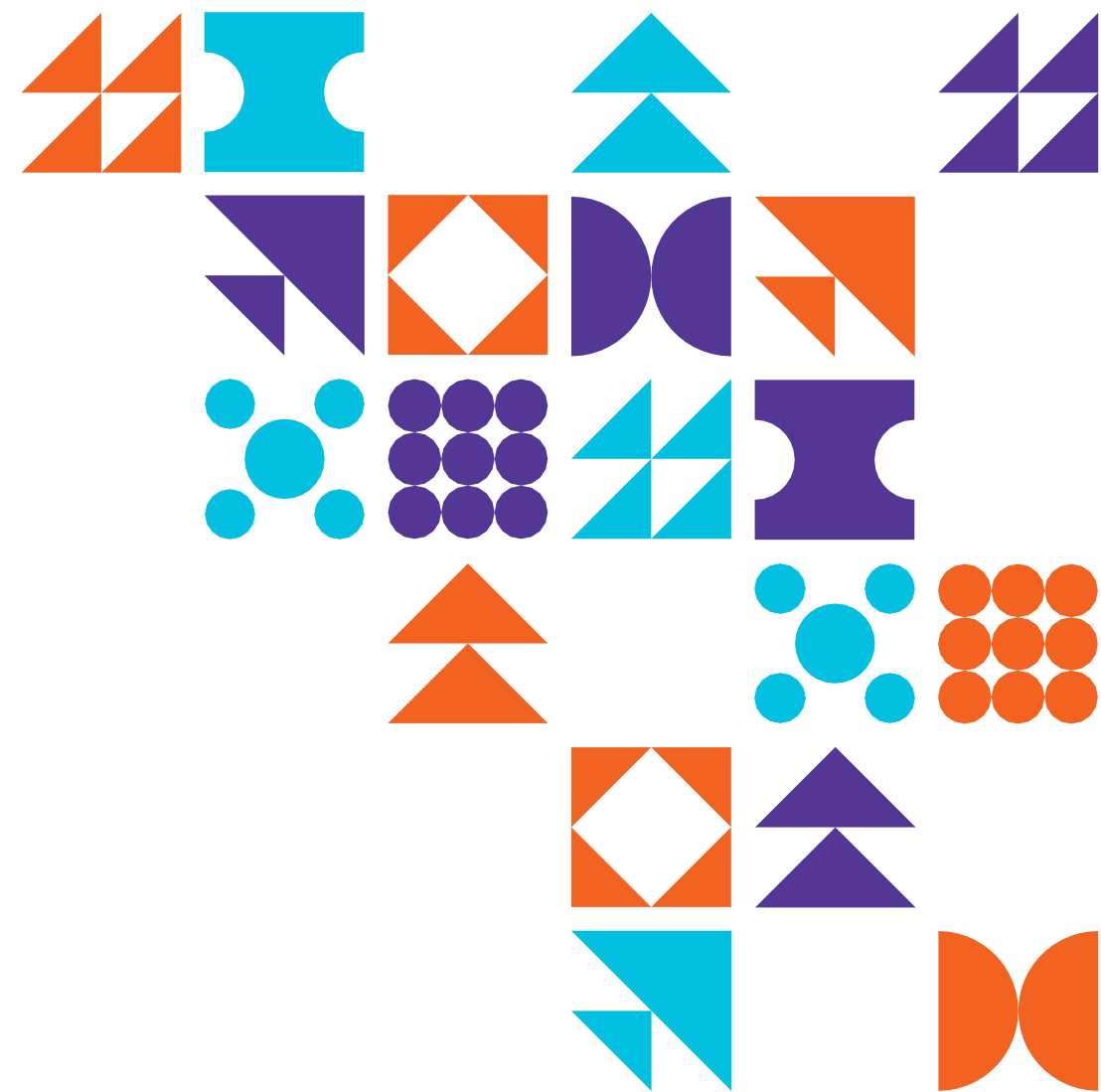
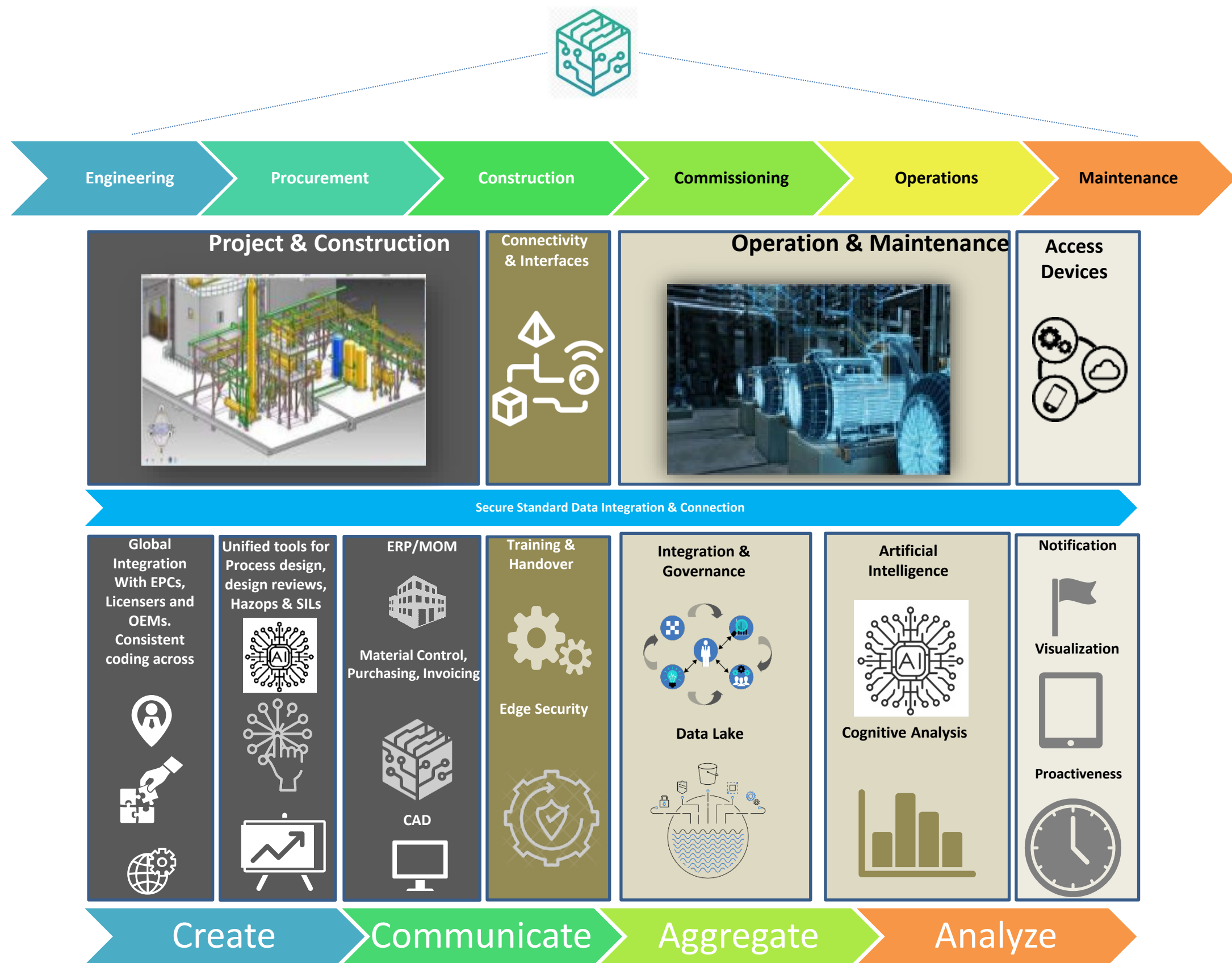


Innovation and Digital Transformation

- The need of unifying Project Lifecycle has emerged as a priority, to have Unified Engineering & Project Execution (EPC X.0)*



Digital Twin to the rescue!



Digital Twin- Different Dimensions for Different Project Phases



Construction 8D Digital Twin

- 3D Model/Clash Analysis
- Schedule Management (Virtual Construction Simulation/Construction Sequencing)
- Cost Simulation/ Estimation
- Execution Management (Project/ Contractor Safety)
- Scope/Contract Management (e-review)
- Sustainability and Circular Economy



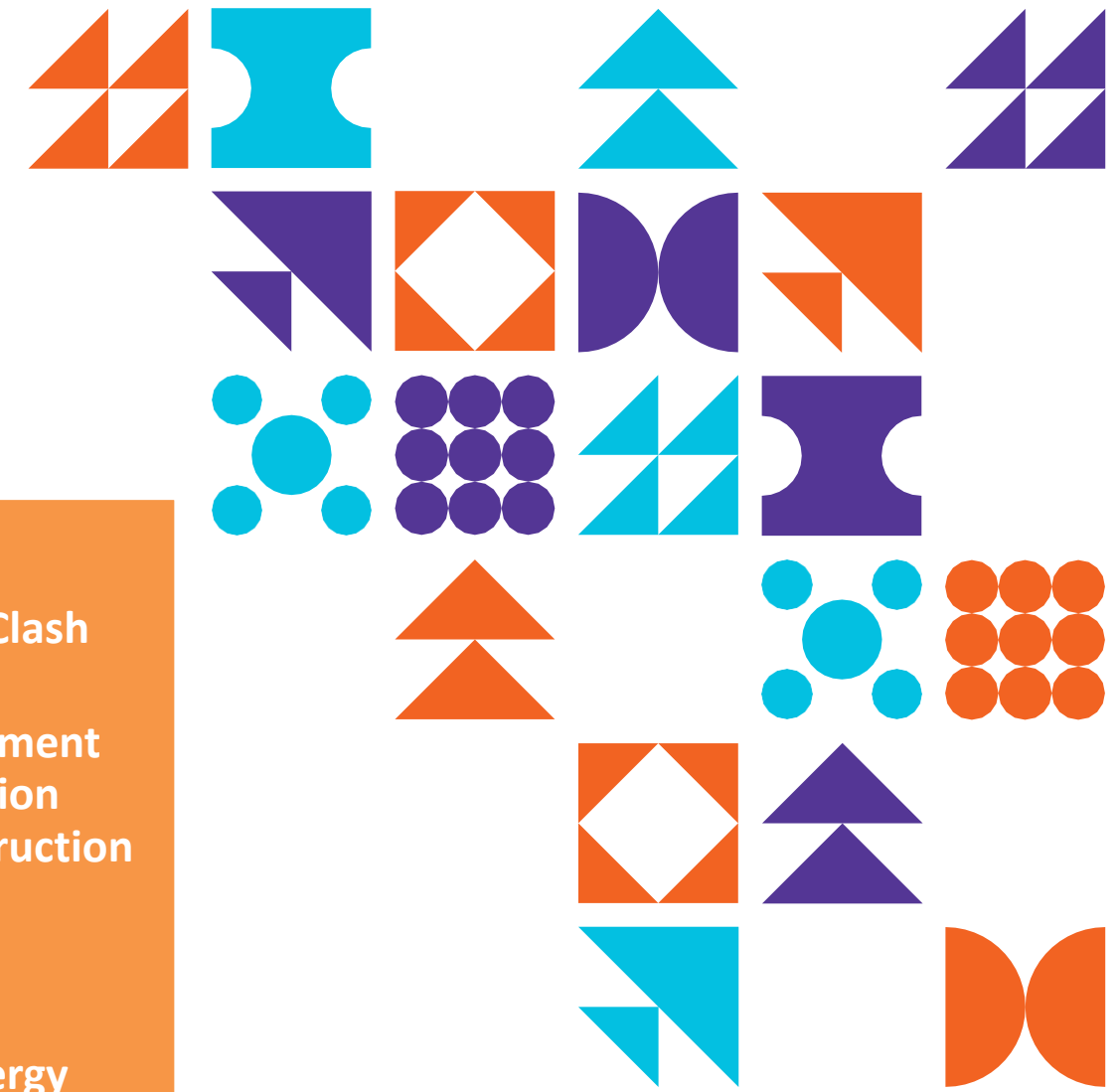
Operations 8D Digital Twin

- 3D Model Simulation and virtualization (Mixed Reality)
- Asset Performance
- Process Safety
- Environmental Management and Sustainability
- Operation Predictive Management and Analytics
- Supply Chain/Inventory Management

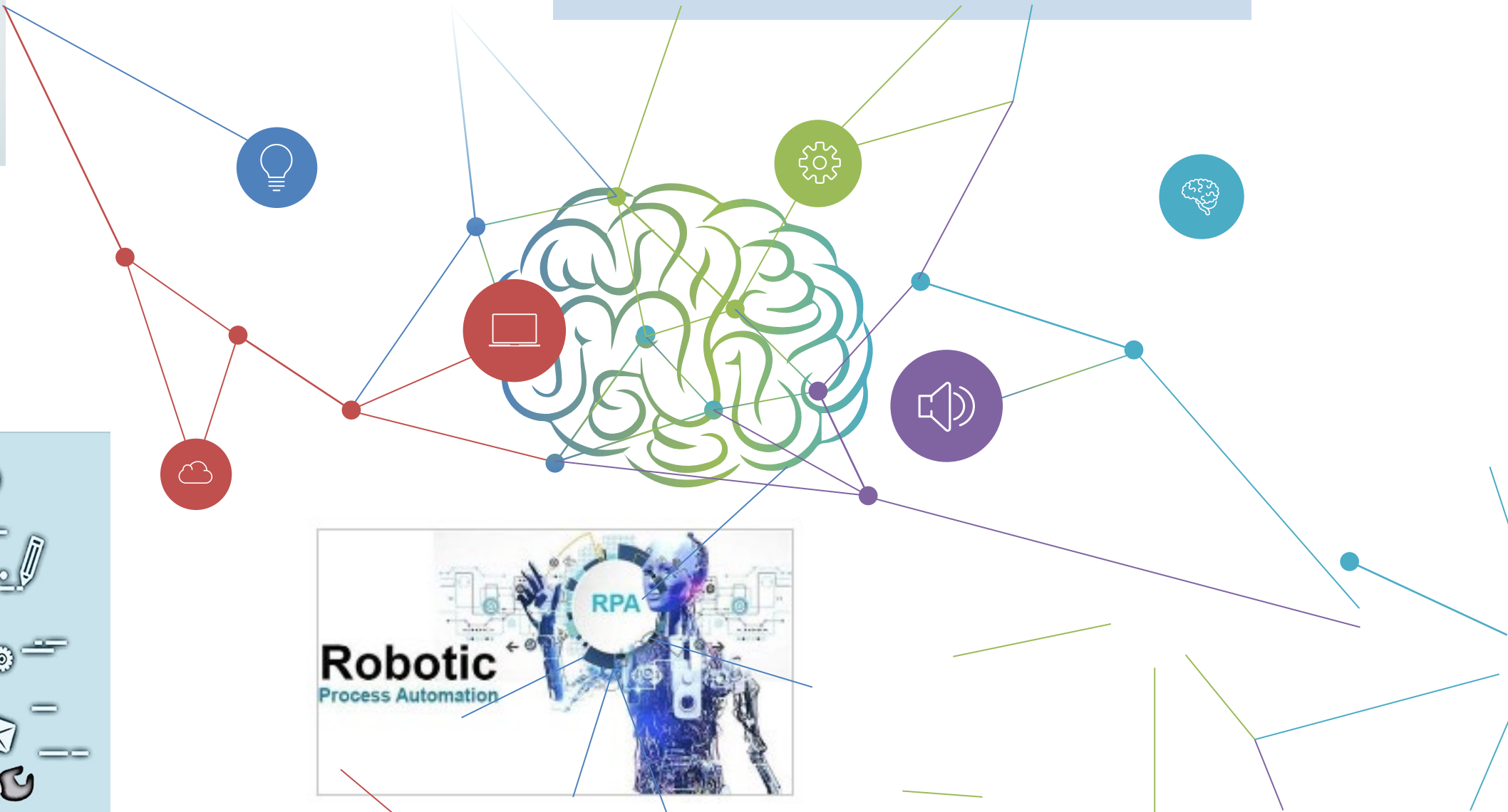
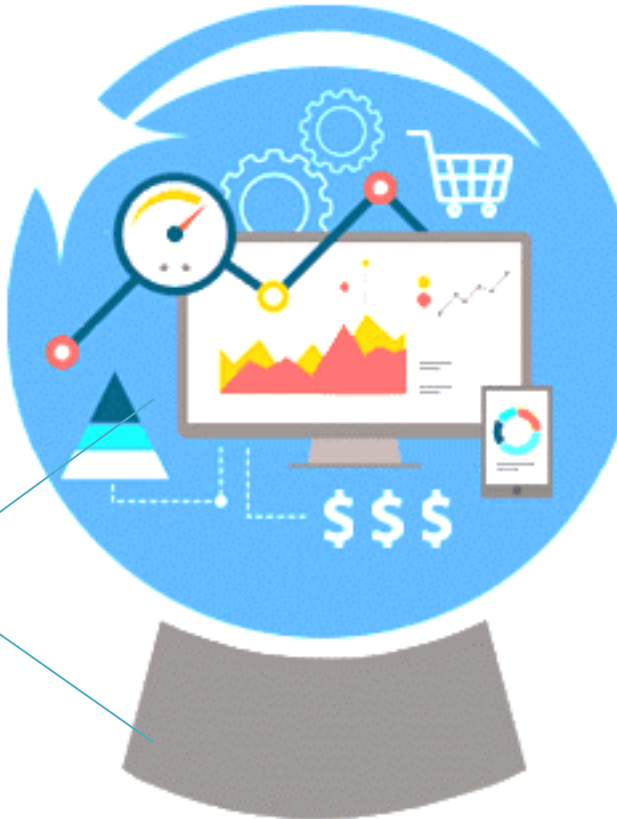
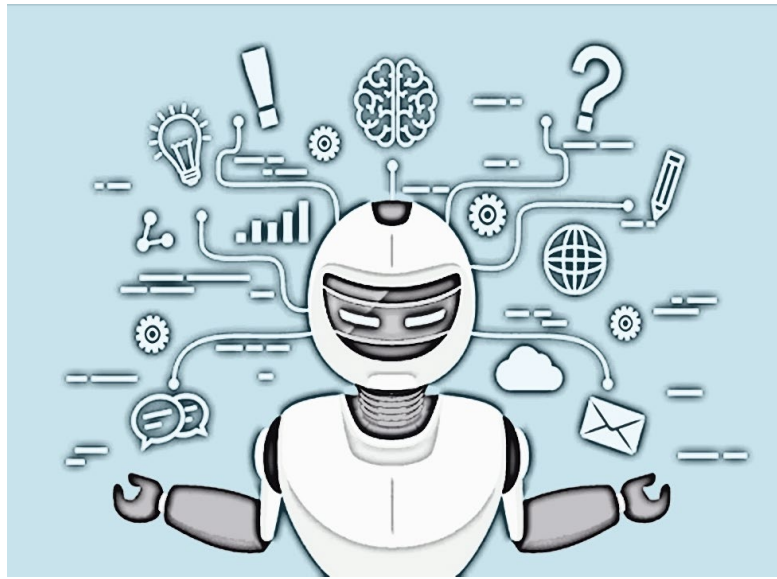
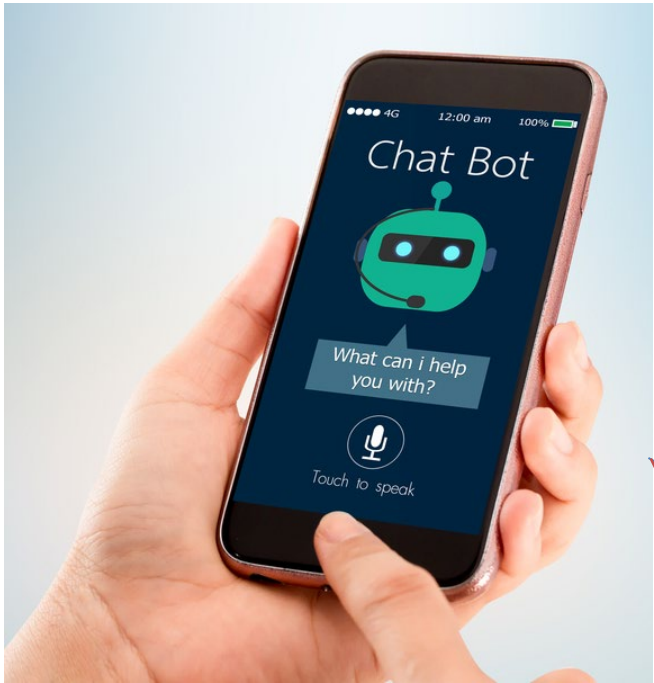
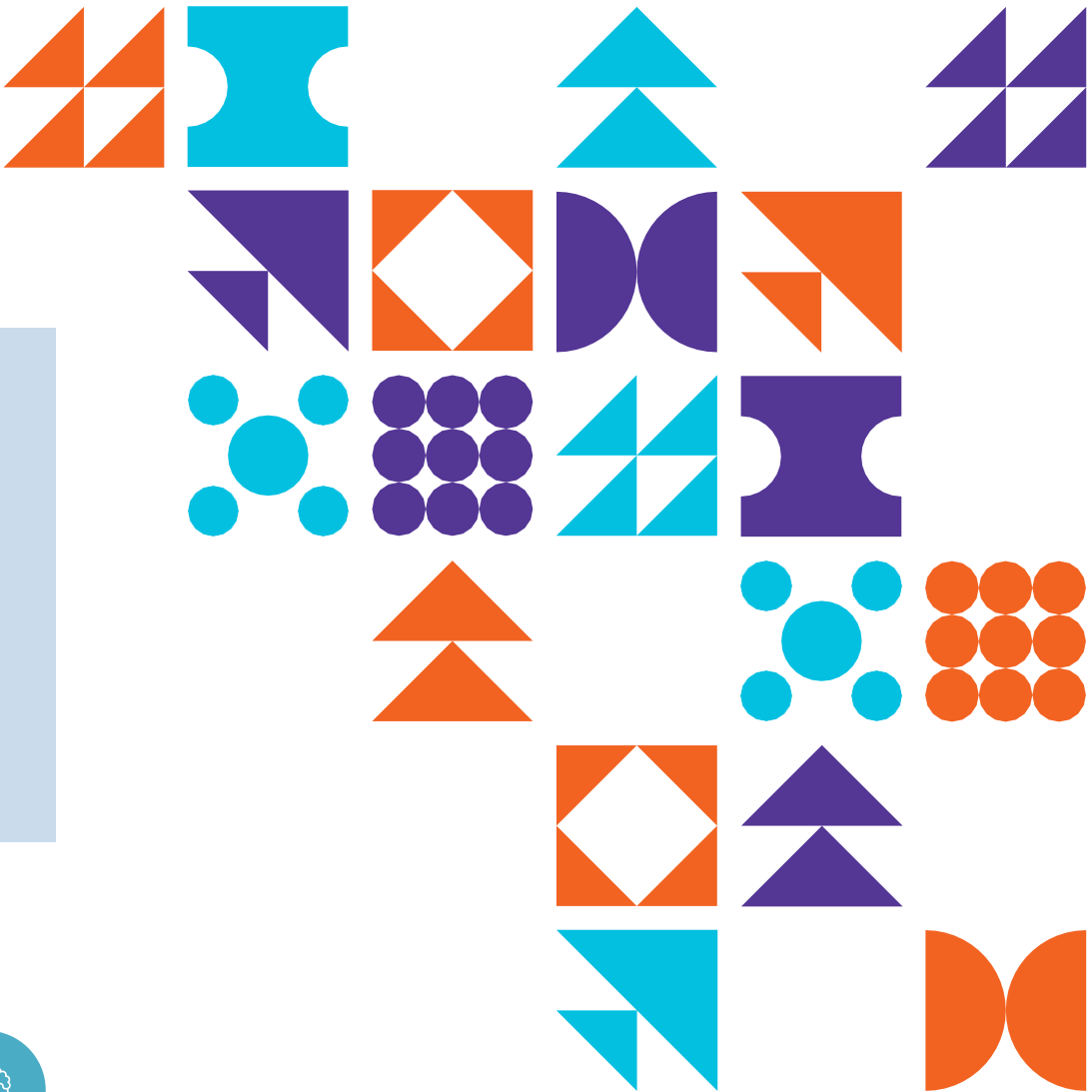


BIM 8D Digital Twin

- 3D Visualization/Clash Analysis
- Schedule Management (Virtual Construction Simulation/Construction Sequencing)
- Cost Simulation/ Estimation
- Sustainability/Energy Analysis
- Lifecycle/Maintenance Management
- Sustainability and Circular Economy

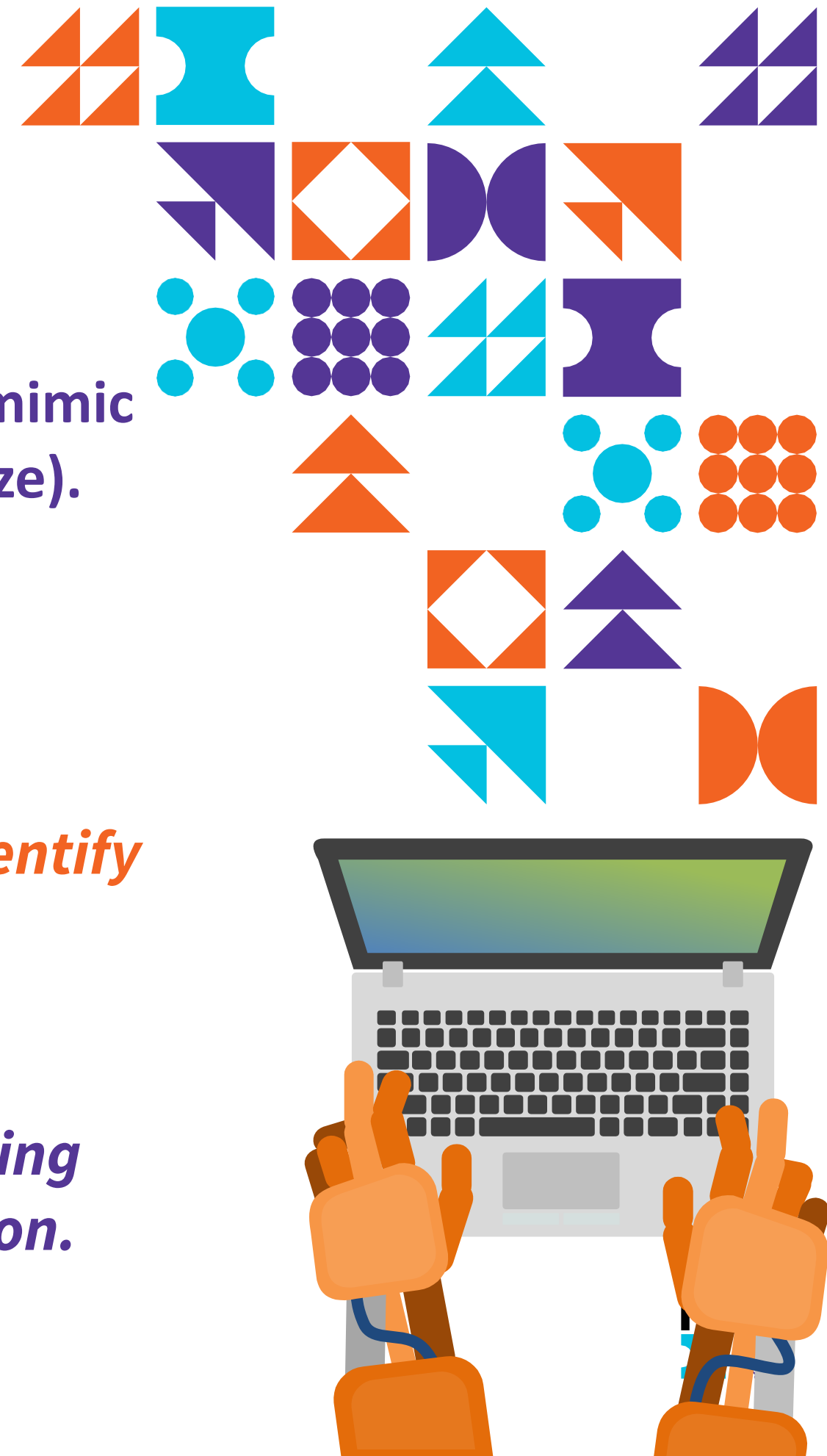


Project Management and AI, better together!



Project Management and AI, better together!

- Artificial intelligence (AI) is the imitation and modeling of human cognitive processes by computer systems, allowing machines to mimic human abilities (such as to reason, discover meaning, or generalize).
- *AI analyzes massive data sets through algorithms to identify features, classify types, learn preferences, and predict action.*
- *AI is used to monitor projects for errors, automate planning, identify paperwork inefficiencies, and conduct site inspections.*
- *As per Gartner, AI will eliminate 80% of today's manual project management tasks by 2030. AI machines will take over everything from planning to data collection, tracking to reporting, and so on.*



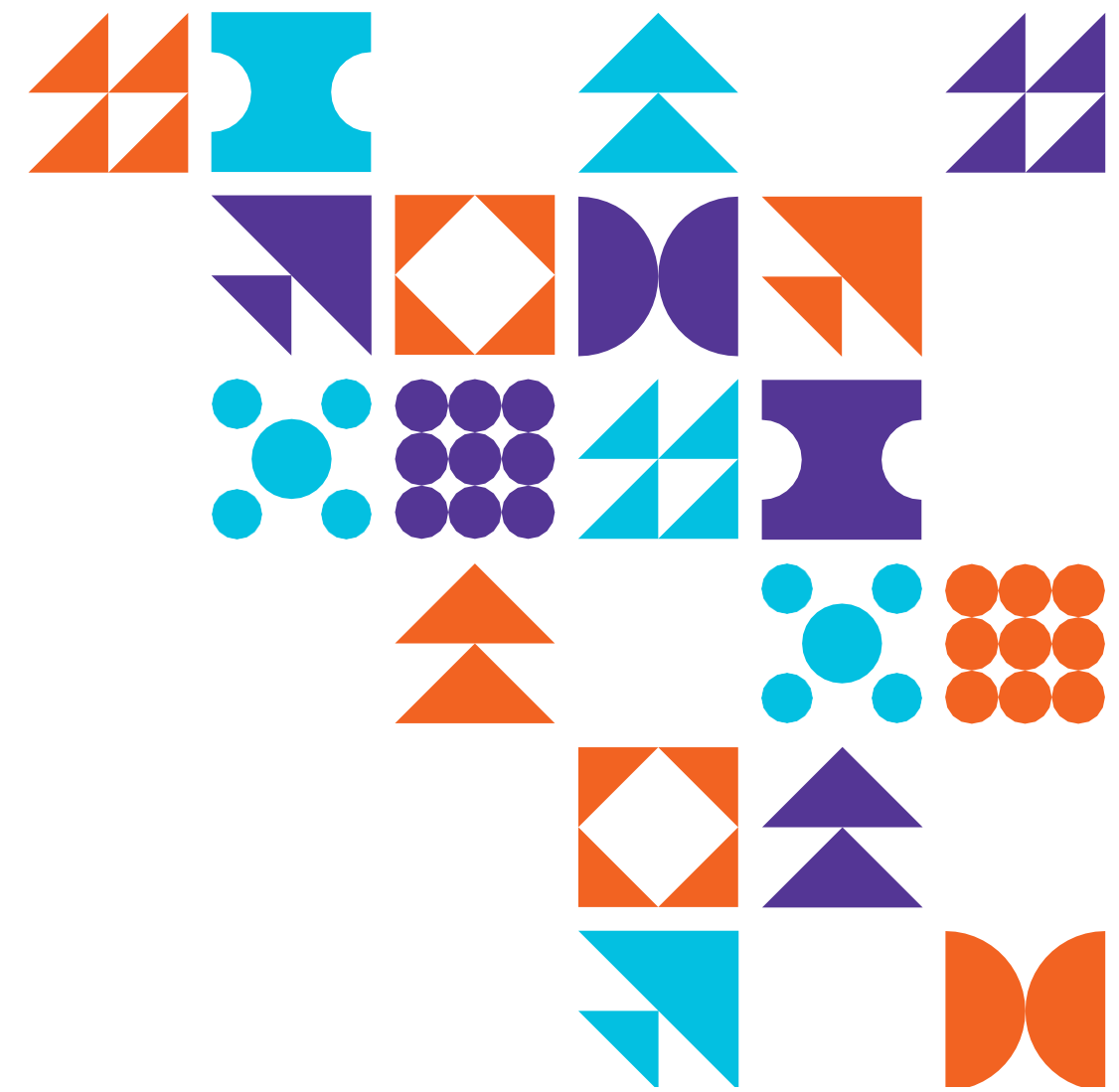
AI in Project Management

- Task List, Budget Plan, Known Risks
- Resources allocation to Tasks
- Project Schedule Draft!
- *AI relies on the limitless processing capacity of machine learning to infer meaning and help with project-related decisions.*
- *Project has been delayed → AI-driven algorithms will:*
 - *Shift and rearrange your resourcing around*
 - *Generate new plan and schedule*
 - *Workload is distributed fairly without any impact on project timing*



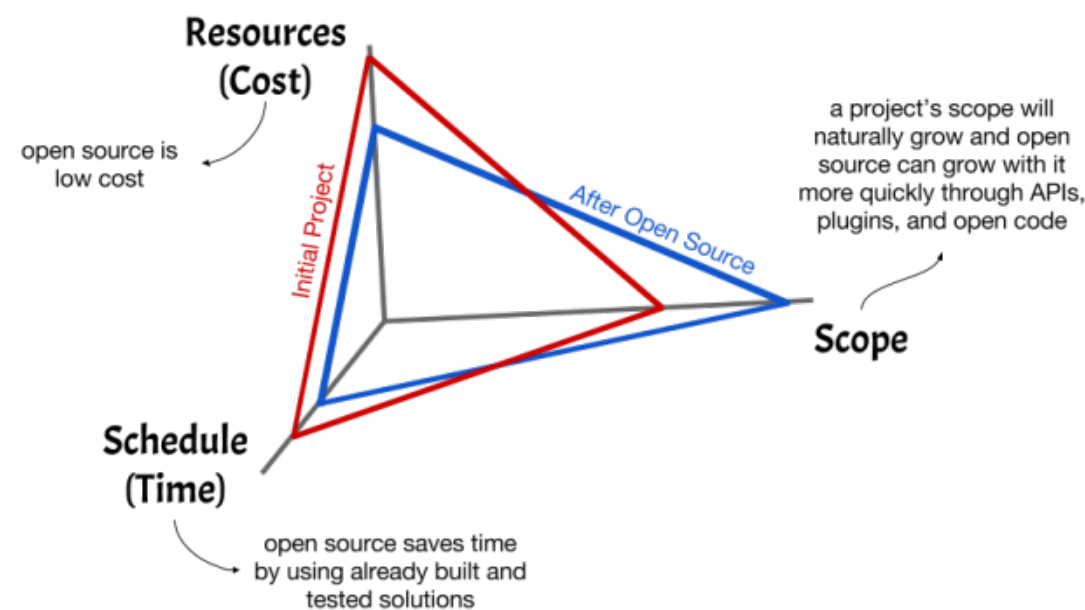
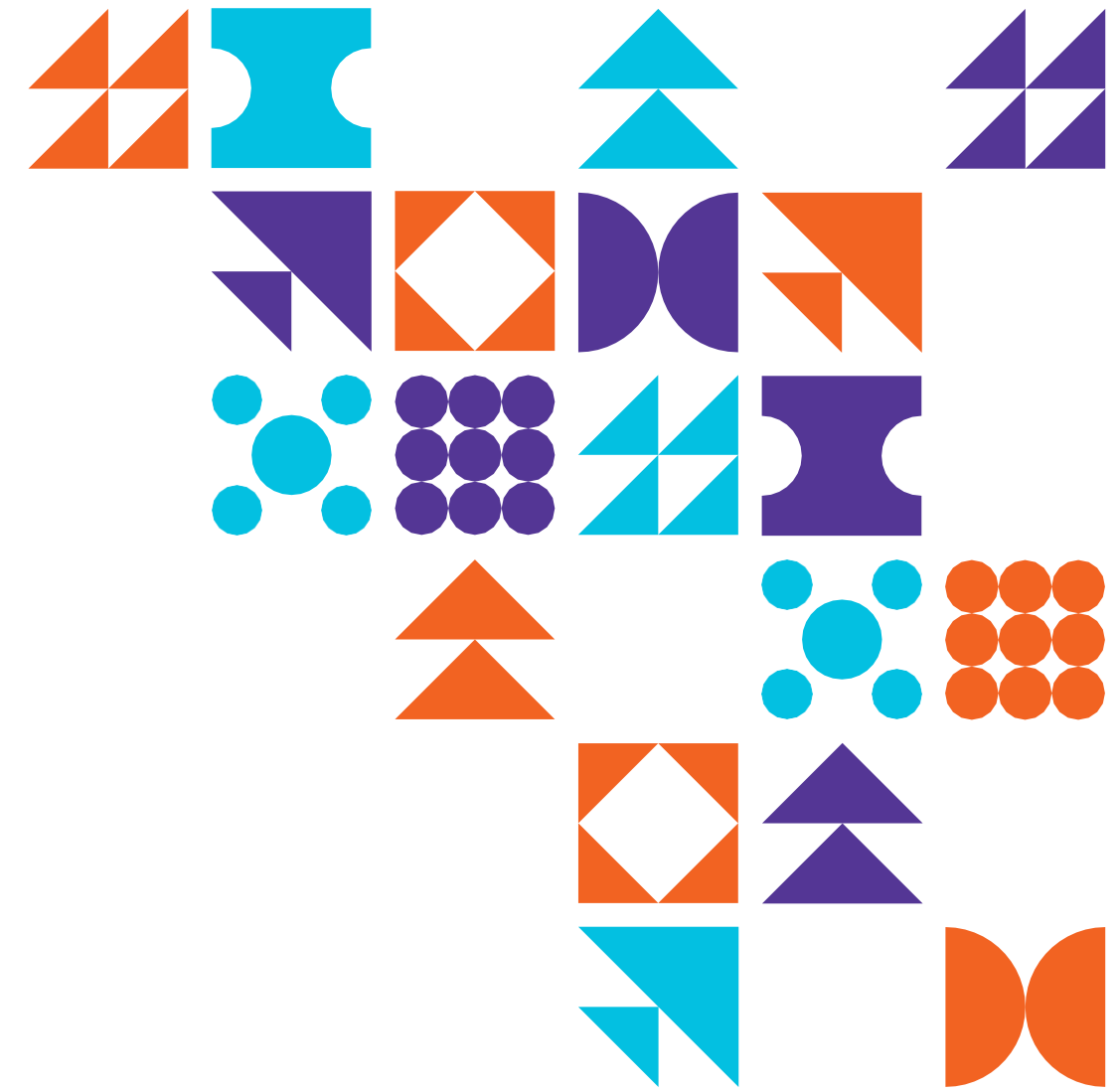
Project Predictive Analytics and Automation

- Historical data → Assess what will happen in the future
- *Eliminate human error and bias(e.g., expert judgment)*
- *Insightful and actionable*
- Automatic Alerts (external events)
- *Automate data and manual entry*
- *Meeting Planning and other admin tasks!*



Project Risk & Cost Management

- Understanding risk thresholds (risks and opportunities)
- *Forecasting stakeholder behaviors!*
- *Dynamic pricing strategy and automation of invoicing*
- Quality assurance and compliance!
- *Estimate Cost and Schedule Variance*



Questions

