AI Engineers

Improving Life. By Design.

THE AGILE JOURNEY

In the fall of 2019, AI Engineers (AIE) set forth with a rebranded vision towards a new mission and business model, ensuring that AIE will continue to grow and prosper. The cornerstone of this vision is incorporating agile practices into the way we operate as a business. This book lays out our progress on this journey towards **AGILITY** and where we would like to go from here.

Significant opportunities exist within the disciplines that AIE provides:

DESIGN of bridges, structures, water/wastewater and building systems.

CONSTRUCTION management, inspection and project controls.

INSPECTION and evaluation of bridges, tunnels and ancillary structures.

NEW TECHNOLOGY to capture reality with the latest hardware, visualize our data with powerful software, and create an accurate virtual representation of physical assets with digital twins.

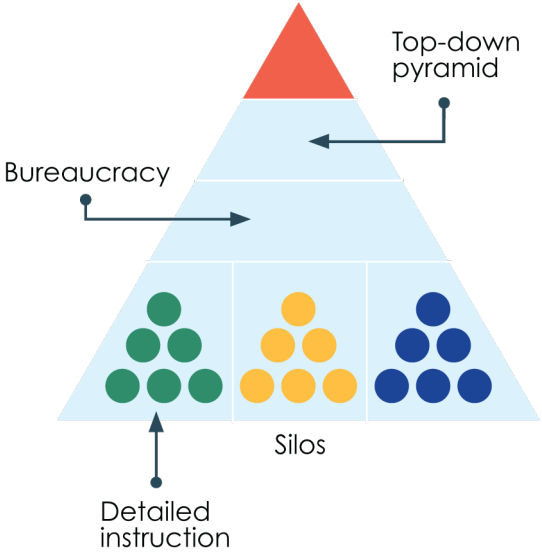
Historically, federal, state and local government agencies have provided the largest business contracts to A/E/C firms and have employed many highly skilled engineers over the past 50 years. However, they are now approaching a major turning point as many of these experienced people are set to retire while young individuals, equipped with new technology and fresh knowledge, step into the industry.

These public agencies will continue their important role of managing public infrastructure, albeit with a smaller pool of talent. Thus, they may rely more on nimble, responsive, skilled, affordable, and technology-focused firms to support their programs. New technology disruption and innovation in data, computing as well as artificial intelligence is poised to bring dramatic improvements and cost savings in the conventional domains of the industry.

From organizations as **"rigid machines"**...

One of the most common **"traditional" organizations is a static, siloed, structural hierarchy –** with the most elite governing entities at the top channeling goals and decision-making rights down the ranks.

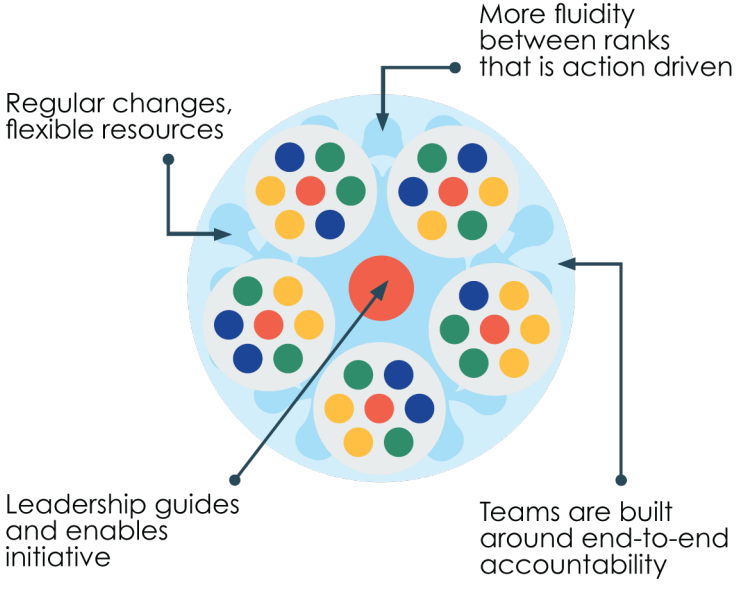
This rigid skeletal structure is *slow* moving and operates through linear planning and control in order to maintain value and stability.



...To organizations as **"dynamic organisms"**

In contrast, agile organizations are stable and adaptive by design.

It is a people-centric culture comprised of a network of teams utilizing swift learning and rapid-decision cycles, enabled by technology and collaborative efforts, to create value for stakeholders.



Our Journey to AGILITY

Abul Islam,

Founder and President/CEO of AIE, continues to provide guidance and vision as the company embarks on its 30th year in business and grow its national footprint.

The expansion of the organization and its success depends on cultivating new leaders and managers who will assume the executive responsibility of managing growth, in addition to facilitating expansion through acquisitions, while practicing the **AGILE** model.

If implemented correctly, the **AGILE** model could propel the growth of the company many times over its current size and create highly satisfied and effective professionals, managers and leaders along the way.

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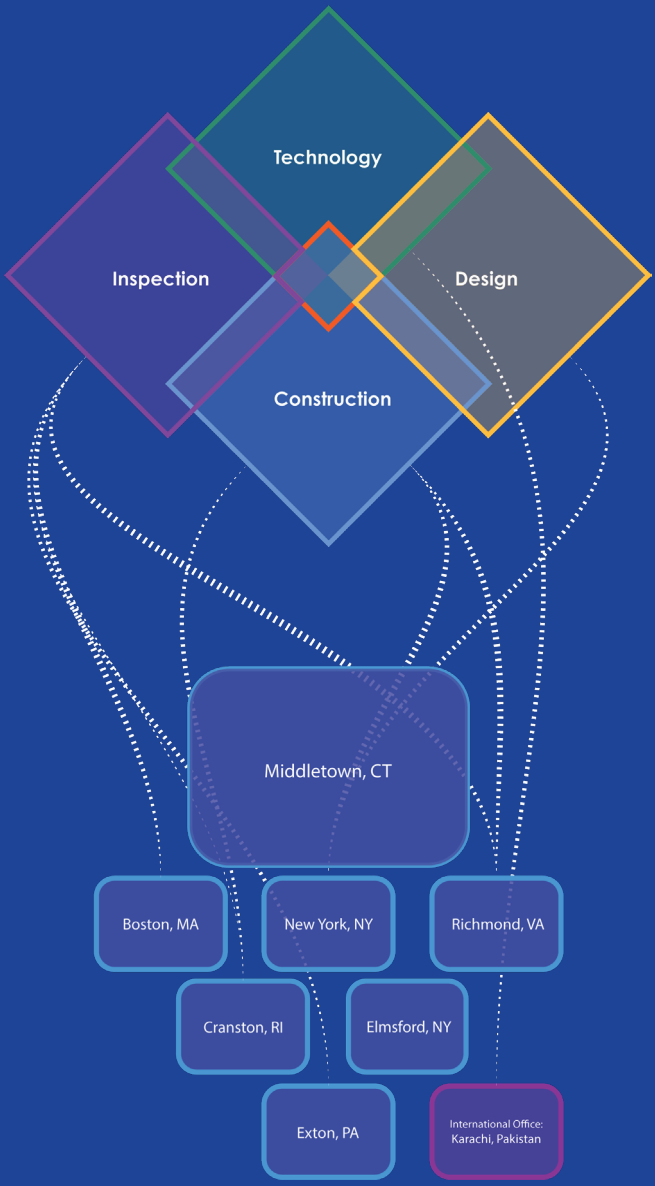
Here at *AIE*, **we are agile** in a way that is relevant to our size, and geographical extensions, while still applicable to the practice of our engineering/technical disciplines.



AGILITY is the efficient application of productivity and technology through collaboration in order to improve our business processes and client solutions during **unpredictable changes in the environment.**

COMMUNICATE
PLAN
FORM
LEARN

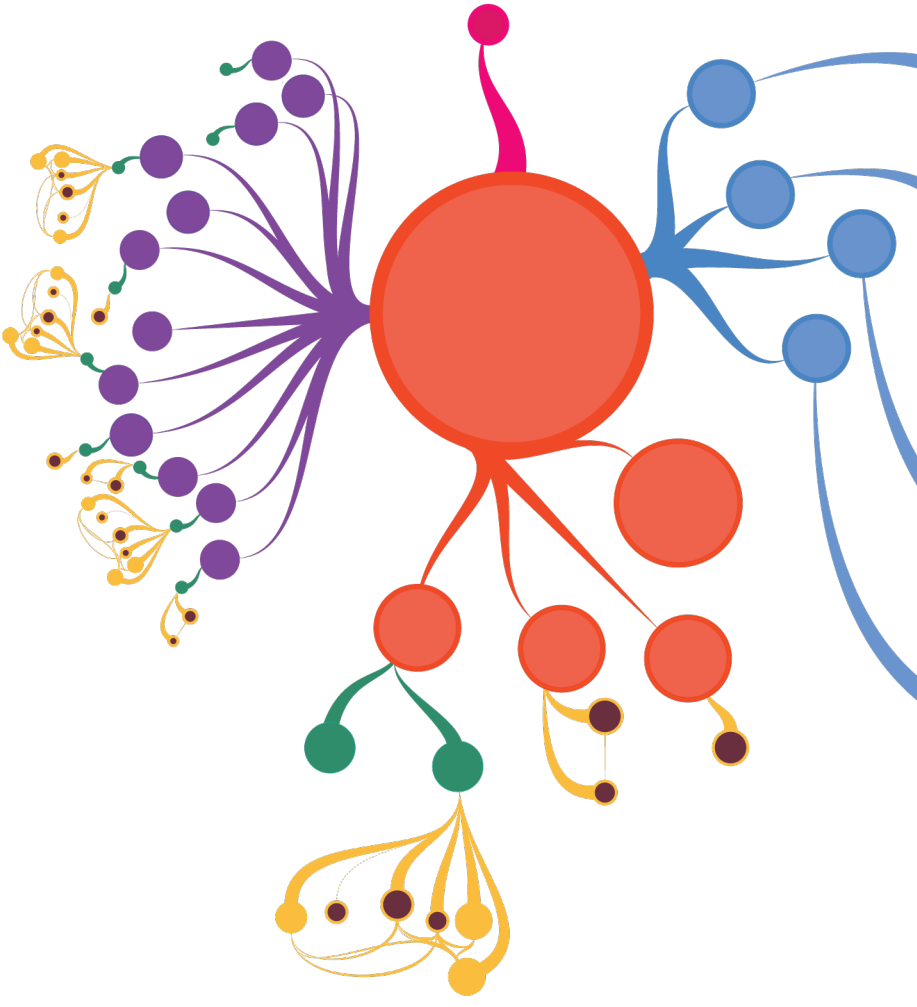
Balancing AGILITY

Enterprises become static when they fail to adapt and don't focus enough on innovation.

Inadequate emphasis on operations becomes a dangerous risk to the business and customers, which leads to poor quality and high costs.

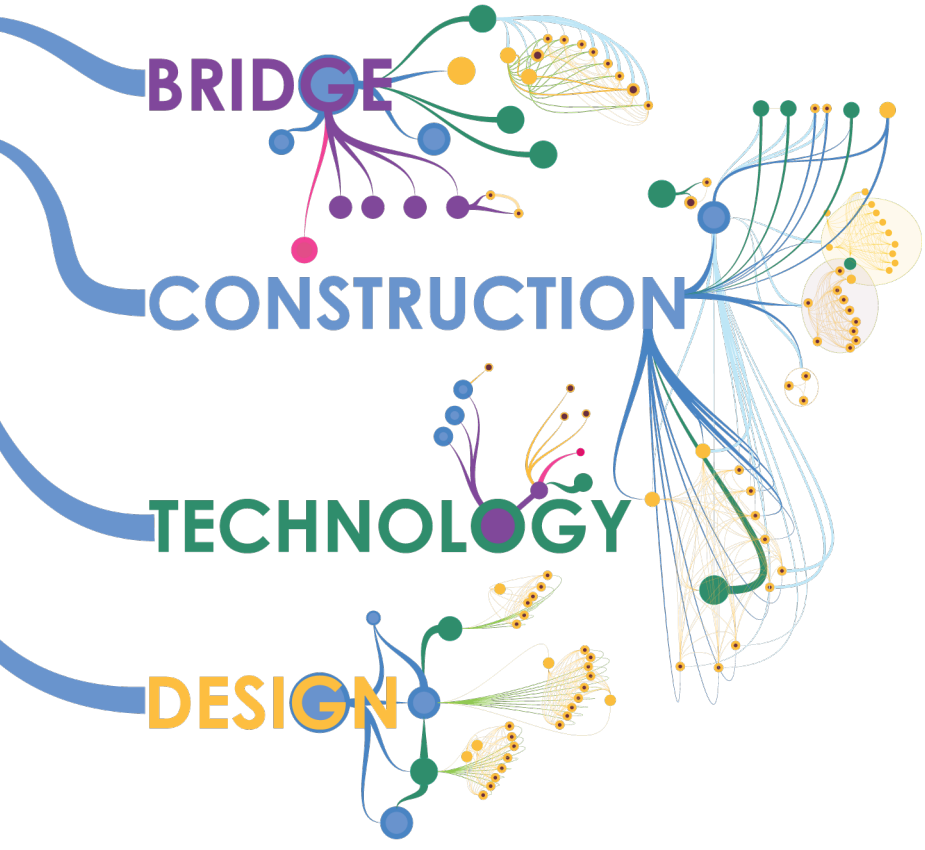
We expect to achieve our aggressive growth targets by primarily focusing on public and private clients on a national and international scale, as well as integrating technology into all disciplines, while acquiring new firms to meet our growth and revenue goals.

With new acquisitions and shifts being introduced to the company at an accelerated pace, change needs to occur at the enterprise and individual levels while we continue to meet our clients' current and future needs.



OUR AGILE

- Discipline Leaders
  in charge of key business disciplines
- Geographic Leaders
  in charge of defined regions



ORGANISM

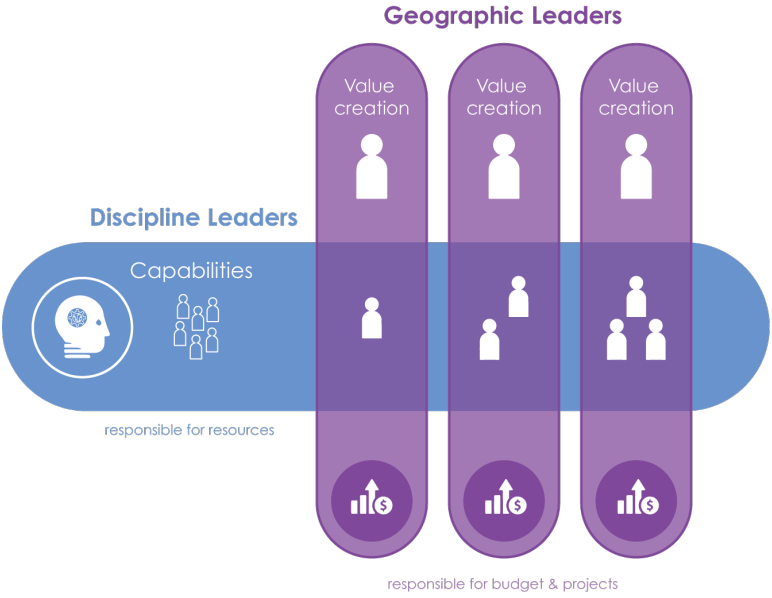
- Administration
  core management team
- Accounting/Finance/Legal
  provides financial & legal support
- Managers
- Sub-Managers
- Specialists

AGILE Management

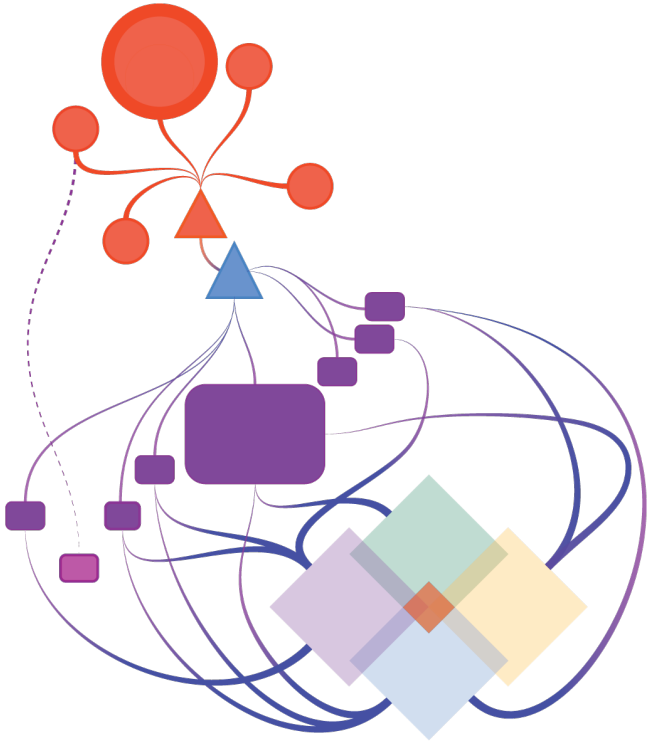
A typical agile company employs a dynamic matrix structure with two types of reporting lines: a **capability line** and a **value-creation line**.

Success during a project requires both resources and expertise pertaining to the scope of work. Each geographical extension will be responsible for managing the budgets, projects and client services that are assigned to its respective employees.

Nearly all employees have both a functional reporting line, which is their long-term home in the company, and a value-creation reporting line, which sets the objectives and business needs they take on in squads.

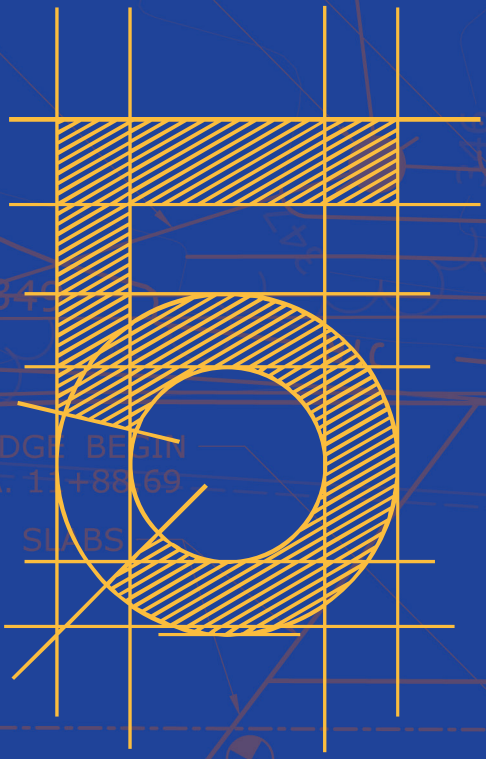


AGILITY
CREATIVITY
TECHNOLOGY



Key

- Discipline Leaders
- Geographic Locations
- International Locations
- ACT Leaders
- Administration
- Disciplines



TRADEMARKS of AGILE ORGANIZ

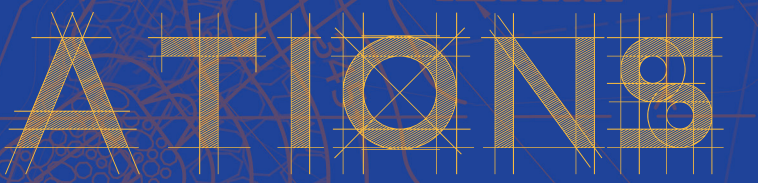
1.
North Star embodied across the organization

2.
Network of empowered teams

3.
Rapid decisions and learning cycles

4.
A dynamic people model that ignites passion

5.
An organization that enables next-generation technology



1. North Star embodied across the organization

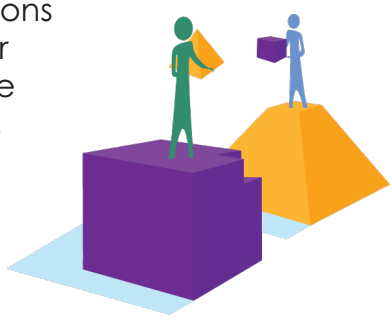
A true agile organization will only exist if all employees have the same mindset and goals. Regardless of an employee's current title in the company, the person must be cognizant of all opportunities and roadblocks that exist, and must be willing to take action in finding solutions and motivating one another.

Cross-functional teams

Team based and integrated between disciplines from different levels of the organization

Self-managing teams

Team based and integrated within geographic locations that are accountable for end-to-end performance within specific disciplines



Standalone specialists

Specialized individuals assigned to different tasks full time based on priority of needs

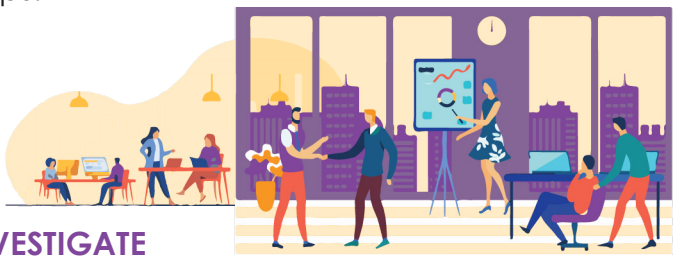
2. Network of empowered teams

Agile individuals are given clear responsibility and authority, making them highly engaged in figuring out ingenious solutions while delivering exceptional results.

By building passionate teams of diverse industry experts, we provide our clients with quality engineering services that address society's critical infrastructure needs.

In an agile and collaborative environment, we readily embrace new ideas and technologies, quickly adapt to change, and consistently provide our emerging leaders and experienced professionals with unique and varied opportunities for growth.

To keep up with unpredictable changes, we need to actively engage and follow these three steps:



INVESTIGATE
what practices worked and what did not after reflecting systematically on what we have learned while facing unpredictable events.

IMPLEMENT
leadership teams that make conscious decisions on where to start, how to start, and which elements of their operating model need structural shifts.

INTEGRATE
and scale the selected practice across the company into each layer of the organization.

3. Rapid decision and learning cycles

While living in a constantly evolving environment, there is no telling what the future will bring next. The only way to minimize risk and be successful is to embrace uncertainty and become the quickest change-driven organization that isn't afraid to try innovative solutions.

Our leadership teams are constantly working towards investigating bottlenecks in our business and design processes so that they can find creative solutions and implement them quickly. Trial and error is our friend in these situations, and once a working solution is found, it will immediately be integrated within the entire organization at a pace that is relative to the work at hand.

Nurturing talent and identifying strengths within the organization.

Finding and recruiting eclectic and talented individuals from various industries and higher-learning institutions.

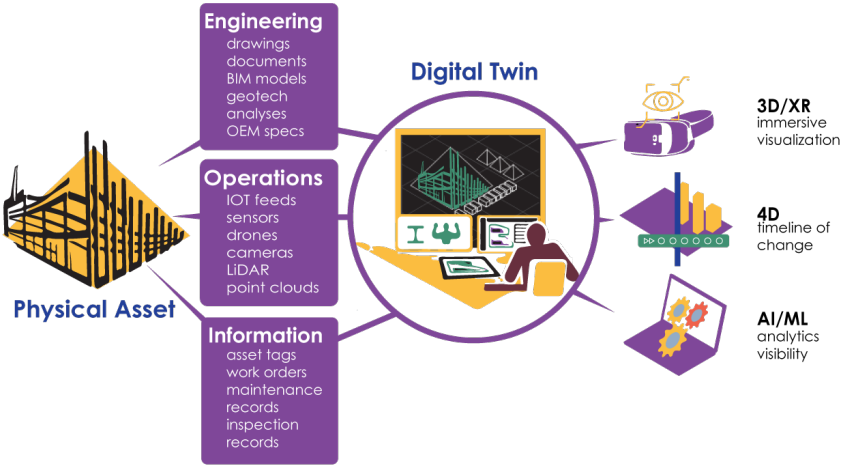
4. A dynamic people model that ignites passion

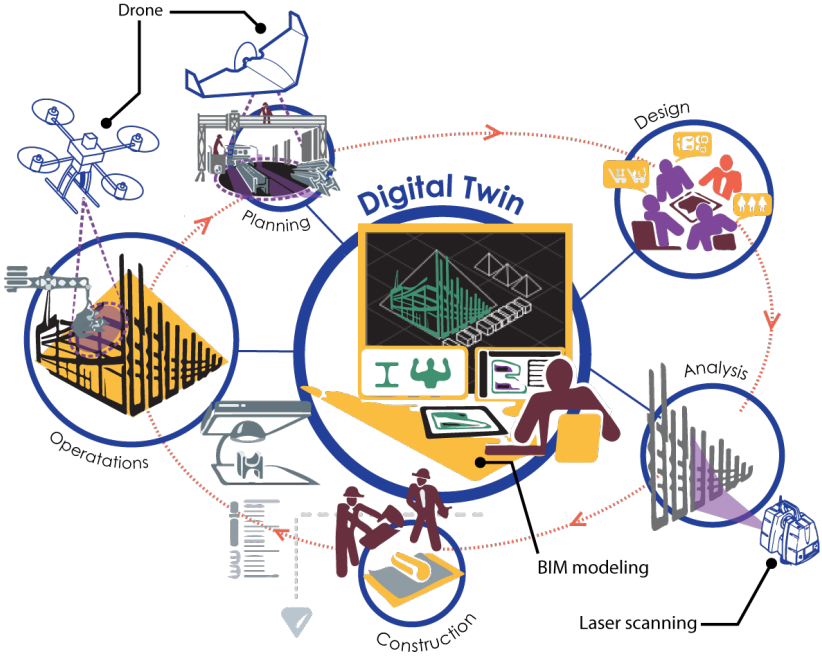
Our organization prides itself in its ability to attract and retain highly skilled and talented individuals from all backgrounds that fit into our working ecosystem. We identify talent internally and reward those who apply their strengths by placing them in a position of leadership.

Here at AIE, if you are good at something, we will encourage you to keep building new skills and expertise to make you even greater along the way.

Rewarding new leaders

using REALITY CAPTURE to create a DIGITAL TWIN





5. An organization that enables next-generation technology

From applications meant to improve operational efficiency to new servicing opportunities creating revenue, next-generation technology is our primary interest when looking into the future of our industry. Integrating new technology faster within our current work practices will set us apart from our competition and continue to keep us at the forefront of our industry as pioneers. All employees are encouraged to be on the lookout for where relevant advances in technology could be introduced into the organization.

As new technology experts and firms join AIE, our company will continue to grow and provide opportunities for new leaders to emerge.

When trying to be **AGILE,** remember to:

- have alignment on the aspiration and value of wanting to be more **agile**.
- treat **agility** as a strategic priority.
- put culture first **over everything**.
- **invest in** the **talents** of your people.
- **think carefully** about the strategy when scaling solutions across the organization.
- have a stable backbone to **support agility**.
- **infuse experimentation** and iteration to the organization's **DNA**.
- be open to **collaboration** between disciplines when applicable.
- **communicate effectively** with all members across the board when working together.

We understand that cultural change is an ongoing journey and doesn't happen overnight.

We are well on our way and will continue to explore new ways to practice AGILITY universally at AIE.

We hope this book helps our employees understand what agility means to us and that it will encourage more involvement and participation from all.

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