



ARDMAC – OUR LEAN STORY SO FAR



deliver projects better, faster, together



SMART

FUTURE

INTRO



LEAN

BENEFITS

CONCLUSION

We are an international construction specialist that deliver complex high value workspaces and technical environments.



Ardmac in Numbers

ARDMAC
Building Better



Our vision is to be the contractor of choice for clients and... the workplace of choice for great people.

Ardmac in numbers

300+

The number of people working at Ardmac



65

The number of people on the Ardmac team for over 10 years

750

The number of projects completed the past 5 years



5,000+

The number of projects completed since 1977

5

The number of years in a row we have won the RoSPA Order of Distinction Award



19

The number of years in a row that we've won the RoSPA Gold Award for Health and Safety

200,000 m²

The number of m² of data centre space we've built in the last three years



200,000 m²

The amount of cleanroom space delivered in the last 6 years

Four main offices



Dublin



Manchester



Brussels



Craigavon

OUR BUSINESS

We work in four key areas:



CLEANROOMS



DATA CENTRES



FIT OUT



**REFURBISHMENT
& CONSTRUCTION**

OUR GUIDING PRINCIPLES



- Safety First
- Understand our Customers
- Respect Always
- Excellence as Standard
- Deliver our Brand Promise







WE NEEDED TO EDUCATE OURSELVES

- LCI events
- Green & Yellow belt training
- Research
- Help from service providers
- Formation of the Lean Governance Team



LEAN at Ardmac

LEAN TOOLS AND PROCESSES

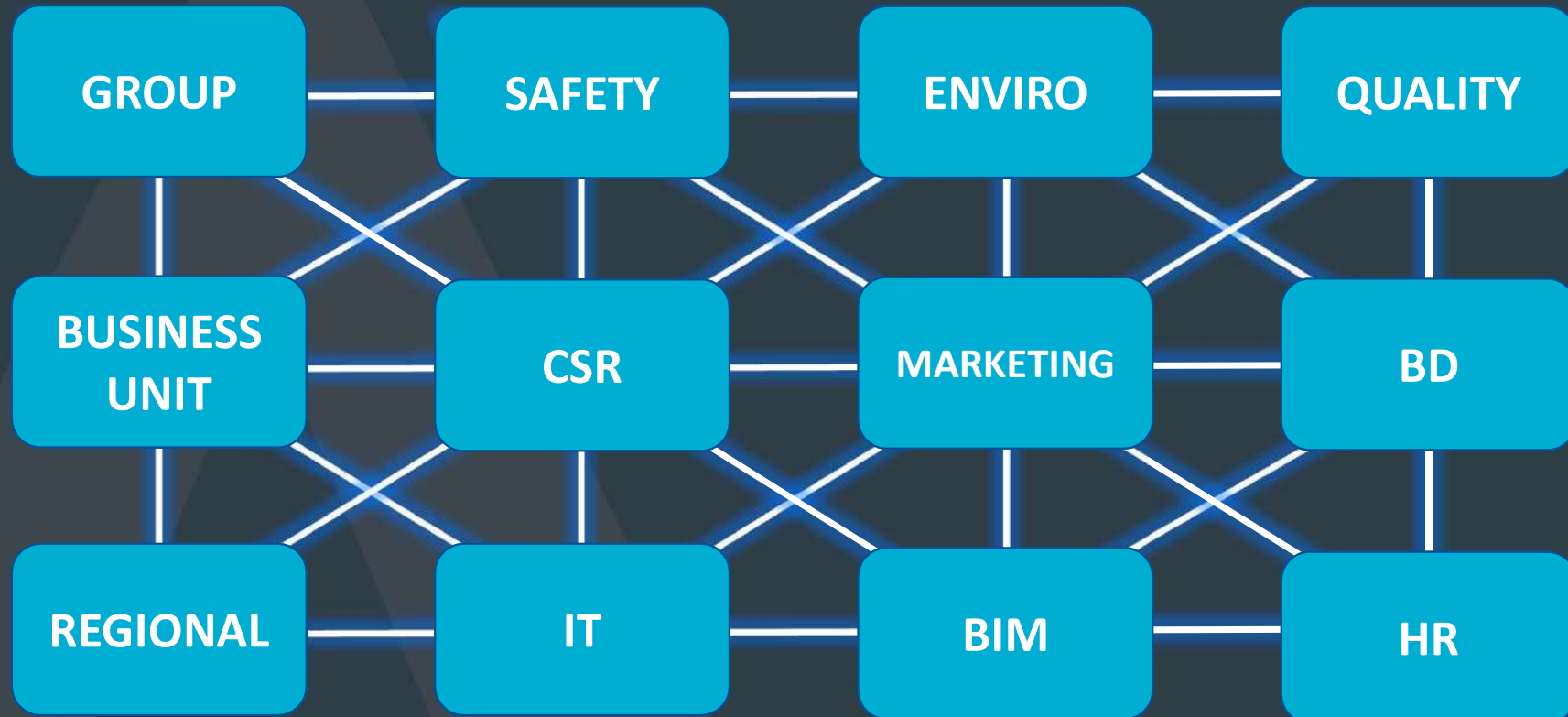
- Lean Governance team
- Last Planner
- Direct Observation
- Integrated Project Delivery
- PDCA
- 6s Method
- BIM & Visualisation
- Common Data Environment
- Cloud Based Collaboration
- Digital Field management
- Computer Based Training



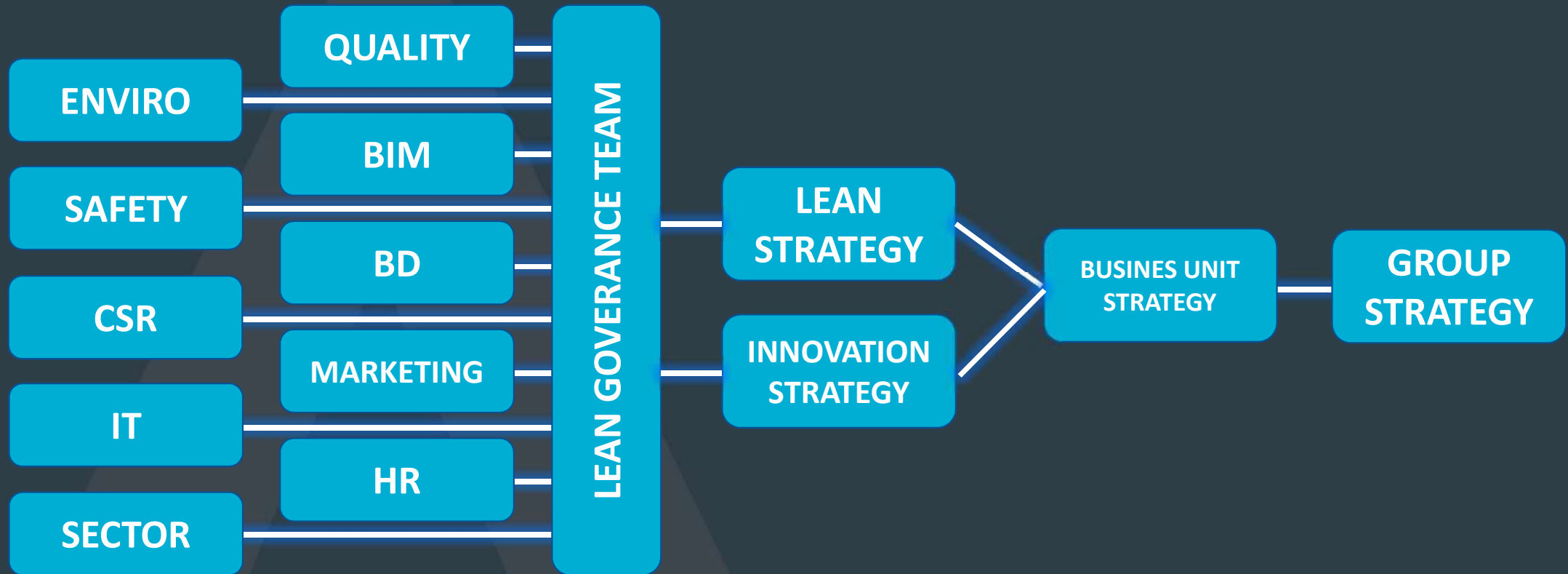
Getting it Right, First time.

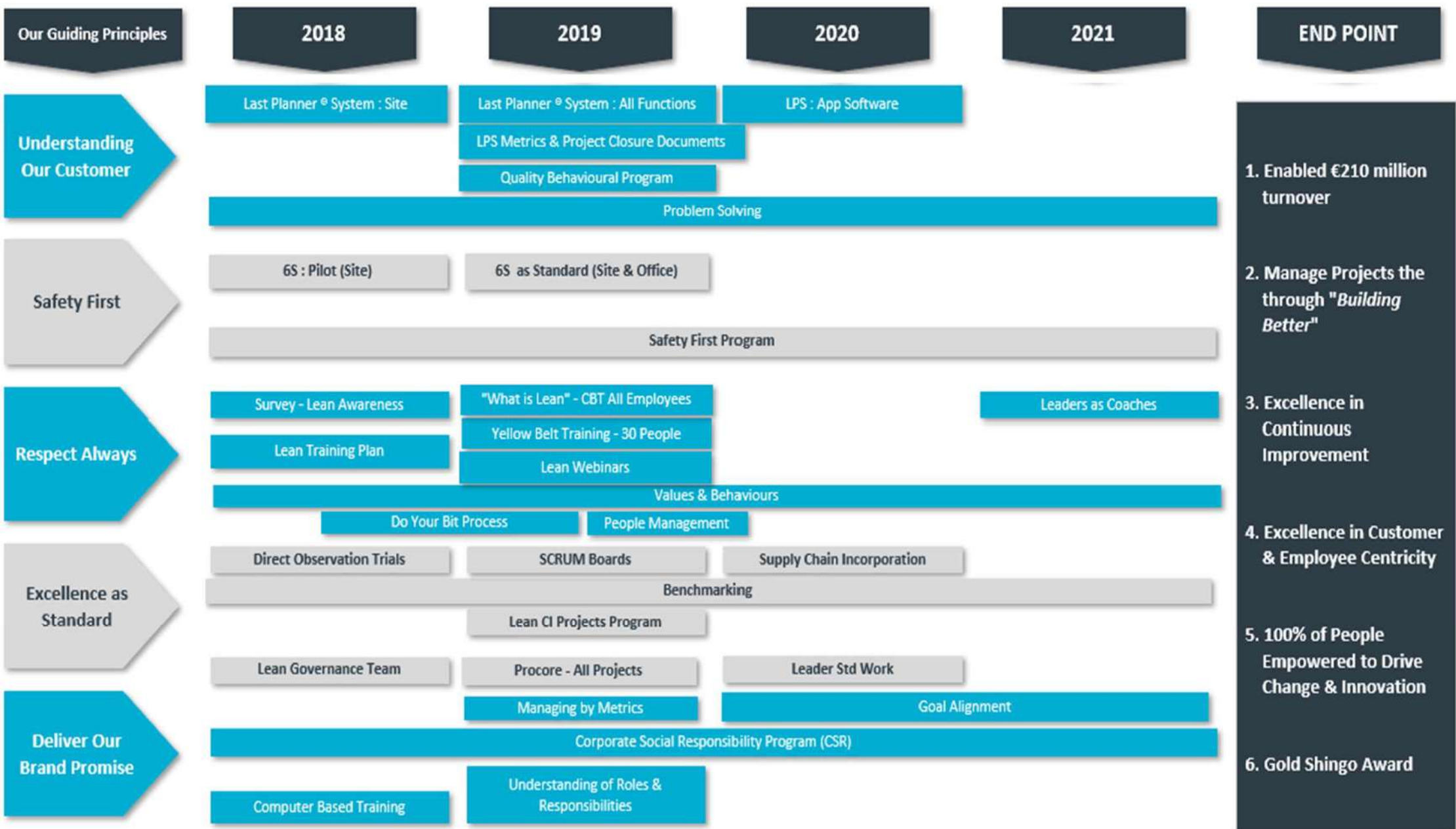
SMART

WHICH STRATEGY?



WHICH STRATEGY?

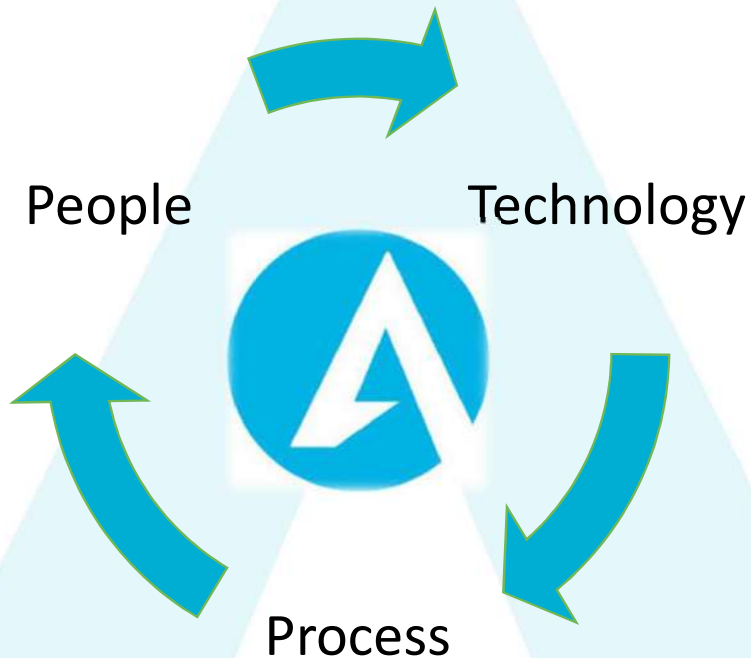




KEY LEAN LEADERSHIP REQUIREMENTS

1. **Understand** the philosophy of lean.
 2. **Commitment**, can take 5-10+ years.
 3. **Willingness to change** and **ability to change**.
 4. **Learning culture**, encourage **collaboration** and **innovation**.
 5. Assign Resources. **Lean Champion** at a senior level.
 6. Include **lean policies** as part of the organisation **strategy**.
 7. Leaders become **coaches**.
 8. Focus on **lean tools**.
-

LEAN PRACTICE REQUIREMENTS



“...Drivers for change are now internal & external but are driven from Inside our organisation...”

Lean practice requires a cultural shift:

- Changing Behaviour Changes Mindset!
- Act Different to Think Different
(Barry O'Reilly – Unlearn)

Innovation

Innovation Process - Develop ideas in a structured manner.

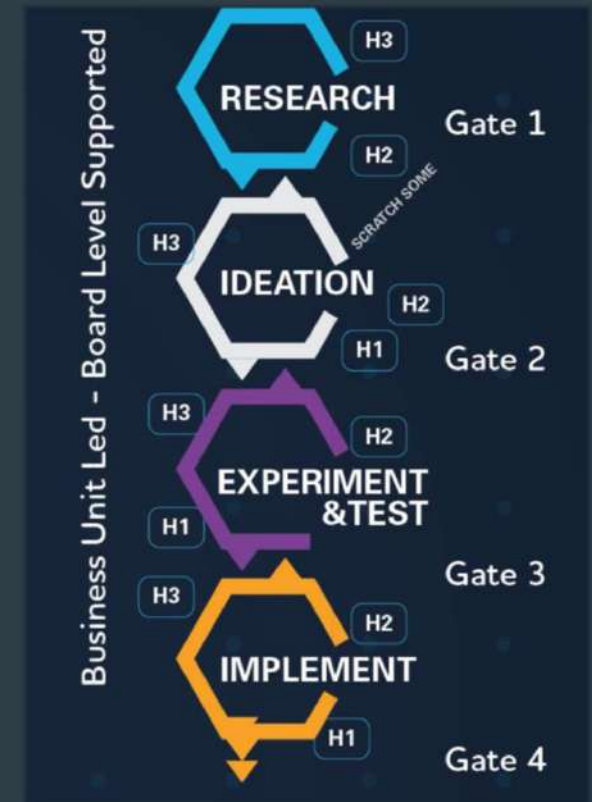
Our Guiding Principle: Understand Our Customers

Identify customer needs,

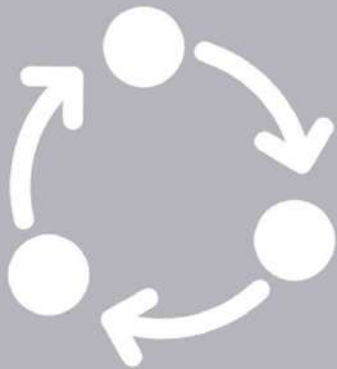
Reframe into Outcomes and deliver solutions.

Linked to a business model.

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SMART
LIFECYCLE



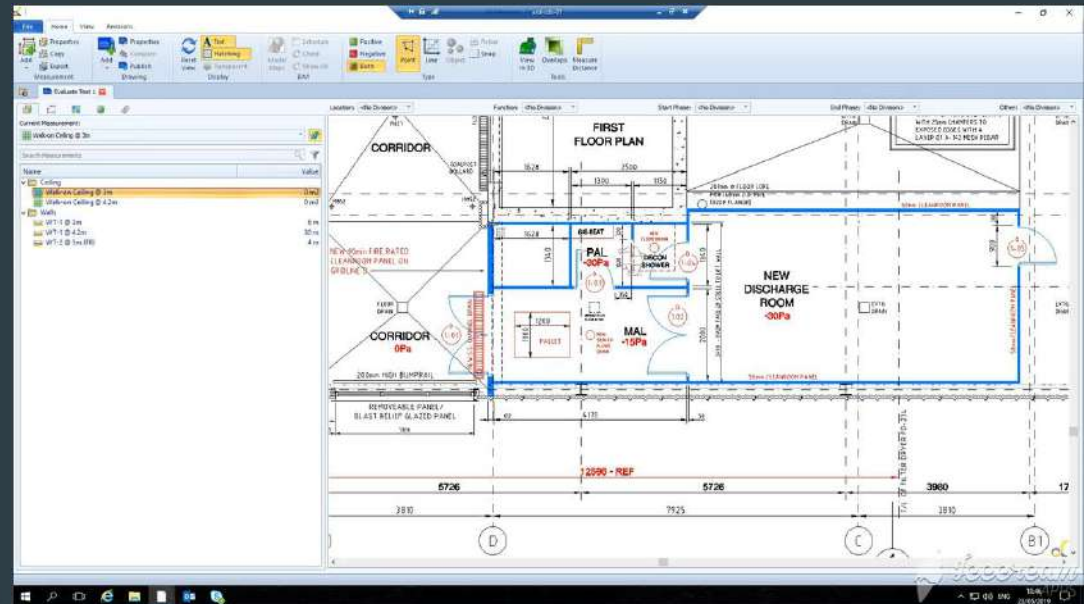
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TENDER

- Evaluate – Digital Measurement
- BIM – Extract Qty's
- Automated Trade package creation
- 4D BIM, tender programme visualization

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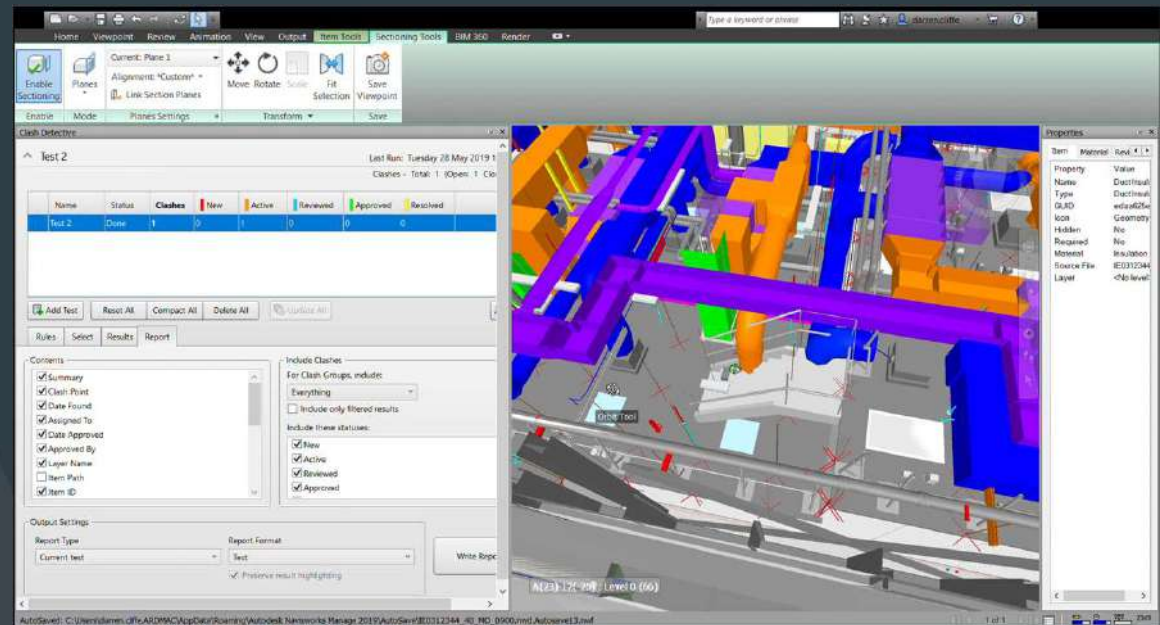


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DESIGN

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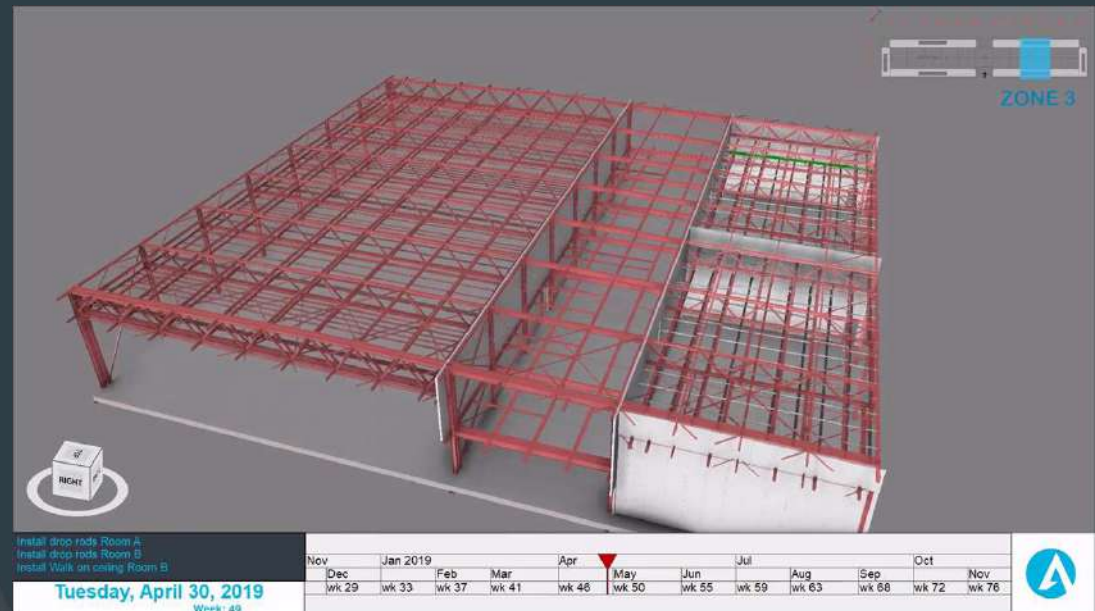
- Detailed BIM Models
- BIM Training Programme
- Early Contractor Engagement
- LOD500
- Digital Clash Reporting
- Virtual Reality Immersive reviews



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PLANNING

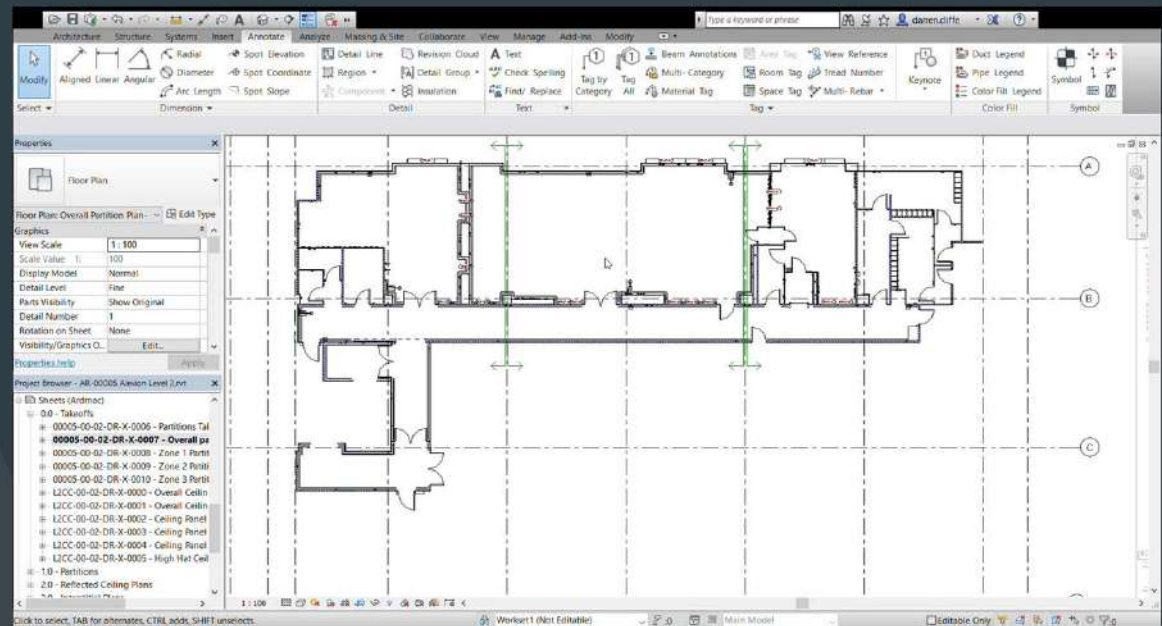
- MS Project or P6
- 4D BIM
- Visual Sequencing
- Progress Reports from Model
- Update status of physical elements through model



DFMA

Design For Manufacture & Assembly

- Revit model generates BoQ
- Production Software integrates with model data
- Minimal human interface
- Minimal risk of error



CONSTRUCTION

Collaboration & Field Management Software

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- BIM On Site - Model Viewing
- Setting out through BIM
- Central cloud based information
- Quality and Safety Inspections
- Realtime project performance data
- User friendly



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COMMERCIAL

- ERP System
- Qtys from model
- Access to single source of information
- Live Sub-Contractor performance



HANDOVER

- As-Built BIM Model
- Digital O&M
- Digitally tag physical assets
- Augmented Reality
- Laser Scanning

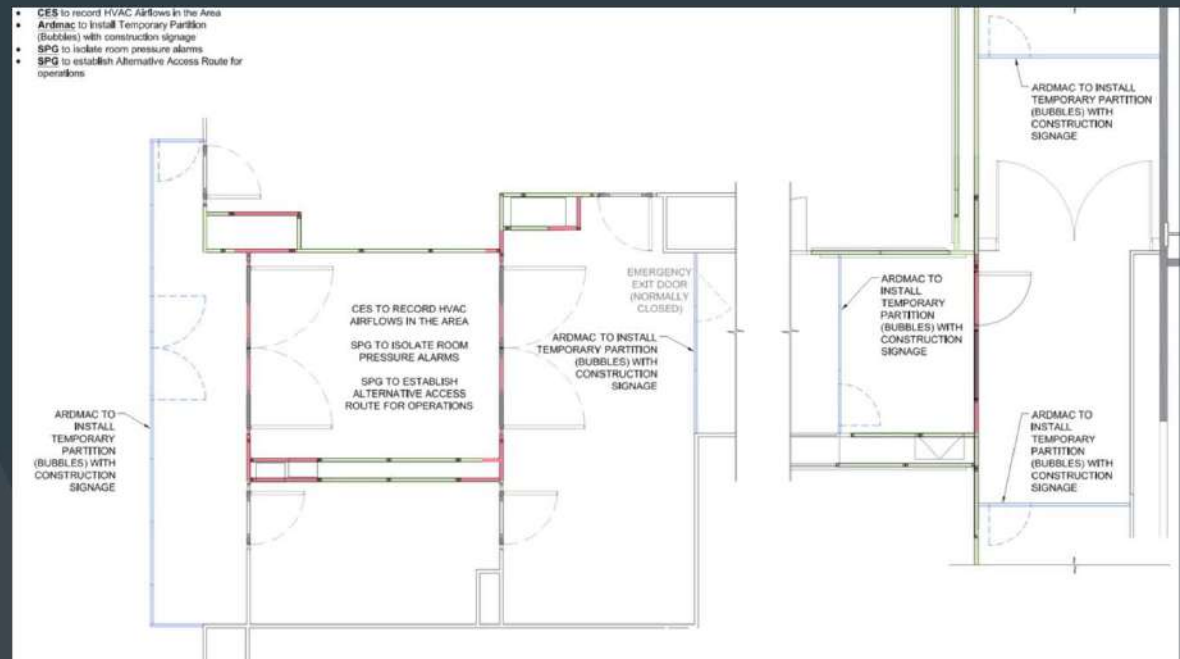
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UPGRADE

- As Built Model used as basis
- Laser Scanning verification
- Demolition and sequencing
- Detailed Planning



BENEFITS



BENEFITS

SAFER

BETTER EFFICIENCY

BETTER COST & SCHEDULE CERTAINTY

MORE VALUE ADDED

HIGHER QUALITY (LESS DEFECTS)

DIGITAL ASSETS

FUTURE



THE FUTURE FOR ARDMAC



- Educate all our staff – Leaders as coaches
 - Focus on Last Planner metrics to Learn
 - Integration of lean culture across the organisation.
 - IPD development.
 - Shingo model implementation as part of our strategy.
 - Digitize all process across the organization.
 - 25% of Revenue from New Products, Services or Business Offerings by 2022 as a result of Innovation.
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SUMMARY

- The Question is no longer “Why Lean?” , it's “Why not Lean?”.
 - Leadership is crucial.
 - Lean development required us to focus on our people.
 - Implementation of technology and where we can find help with this.
 - Communication of quick wins.
 - The future is bright.
 - Technology, Lean and Innovation will be at the centre of everything we do
-

CONCLUSION



Contact LCI



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