

Case Study Title: Walls Construction Cloud Based Solutions Development

Company Overview | WALLS CONSTRUCTION LTD | walls.ie

Walls Construction Limited (WCL) provides building contracting, design and build, construction management and management contracting services across a wide range of industry sectors including residential, commercial office, data centres, pharmaceutical and life sciences, public sector and hotels and leisure. The business was established by PJ Walls in 1950 and is today recognised as one of Ireland's leading construction companies, with a reputation for quality

and building excellence and customer service. In 2015, the executive team, supported by private investors including members of the Walls family, acquired the company and this investor blend has enabled us to continue to expand the business. Since our foundation over 70 years ago, the company has grown significantly, and it employs a total of almost 400 staff.

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Overview & Background to the Lean Initiative

As part of the Walls IT development strategy and after analysis of the standard on premise software environments used in business, the decision was made to migrate all the Walls IT applications and environments to a completely cloud based, structured, resilient, and protected suite of both in house designed and externally sourced solutions. The objectives were to implement solutions that provided Walls staff with anywhere access to all corporate data and applications, without the cumbersome adoption of typical remote access solutions and provide a total data collaboration environment

for all users. Data and communication between staff on all aspects of the business were a pivotal factor in the systems structure going forward and the elimination of servers and all other infrastructural systems needed to facilitate the business and the constant updating of these systems. Future scalability and ease of use were also key factors in the solutions implemented as the company adoption of Office 365 was a key foundation stone for the overall direction we as a business decided to take.

Lean Initiative Undertaken – Lean Thinking, Tools, Techniques

In the modern construction process, the importance of data has become pivotal to a project, and the need to both capture and collaborate this data is central to this. As a company, we identified the benefits of cloud technology and had already carried out a full migration from our on-premises SharePoint based document management system to a fully cloud based SharePoint platform. Once we had implemented the cloud-based offering for all project related drawings and data and standardised the structure and security matrix, the next steps taken were to look at our current policies and procedures in all aspects of the construction projects to determine areas where the further use of the technology could be implemented, and additions made where required. This platform, when fully utilised, provided us with better data control, security, versioning, ease of backup and recovery (also cloud based within Azure Secure Storage) and provided simple scalability as the company demands grew.

As part of this initiative, we decided to develop Microsoft PowerApps to facilitate several areas wherein the SharePoint platform could be further utilised such as:

- a. Development of a custom requisition application to reduce the need for paper requisitions which provided efficiencies

in the material procurement process at both the site and procurement department levels. All relevant requisitions and purchase orders are then stored with the specific project subsite in the document management system providing centralisation and ease of access for each construction project. This is a completely SharePoint based solution, which enables us to further customise and develop it as needed.

- b. Standardisation and development of a custom Site Diary application to standardise the data collection at site level for all projects capturing all required information and images in a simple to use custom form front end. Again, all such data is stored on the subsite for each individual project and is also circulated in a standard PDF format if required. The ease of customisation of this at the backend allows us to constantly evolve this application as needed.
- c. Implementation of QR codes with connected SharePoint and PowerApps integration for Covid Declarations. A standard form was launched, compatible with any mobile device. When the QR code was scanned the user is guided through a series of questions as part of our Covid 19 requirements. Once completed, the user was then sent a unique QR code. The site-based gatemen and Health, Safety, Environment and Quality (HSEQ) staff could then simply scan any person's

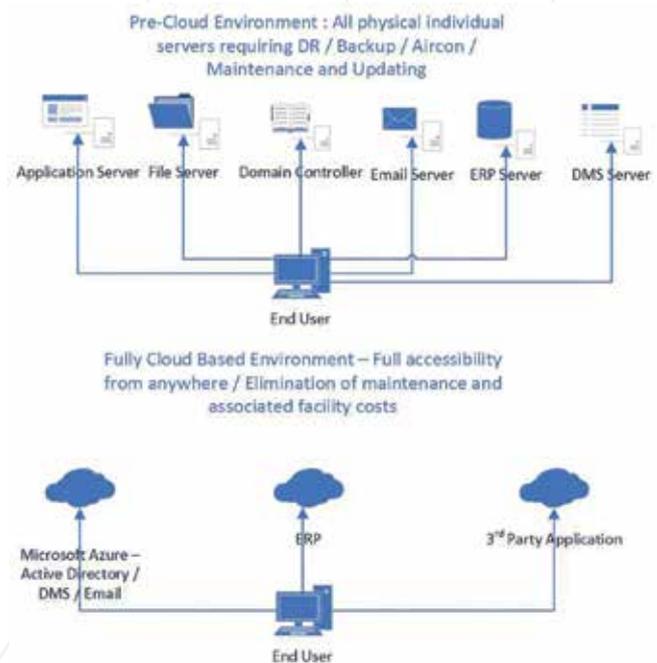
QR code to ensure compliance and reduce waiting time for operatives on site. We are using QR codes and custom forms for further HSEQ applications.

- d. Implementation of a custom template for standardised forms to allow collaborative production of fully formatted reports by site teams.
- e. Collaboration with Email and SharePoint by allowing users to save sent emails automatically and fill in relevant data prior to saving in the appropriate areas within the system. This can also happen for all received emails, further improving the communication and collaboration between staff at a site and management levels.

Separate to the above, we had already implemented full Software as a Service (SaaS) technologies for our core Accounts / HR / Estimating / Procurement and QS departments thus totally removing servers from the Walls IT environment and providing safe and secure access to all staff from any location on any internet enabled device. The additional control provided by Azure AD and InTune further enhanced our security and manageability.

The extended use of Microsoft Teams and its integration with SharePoint and Office 365 provided further improvements to the business function during covid, allowing for ease of access to collaborate between Walls staff, design teams and contractors in a simple and secure platform.

All of these changes to our business and the adoption of technology in such a manner has allowed us to greatly improve collaboration and teamwork not only within our own business, but also in how we interact with others as part of our construction and development projects.



In the ever-growing drive for energy efficiency, we have removed the need for vastly power intensive server and infrastructure hardware and associated cooling energy consumption, leading to a more environmentally friendly operation in terms of our IT energy footprint.

We are constantly adding PowerApps and streamlining solutions to this platform to provide further business benefits as and when identified. Due to the transparency of the system to end users, we can provide these solutions with the direct input of the individuals to ensure the business needs are met with targeted additions to our overall technology and procedures.

Lean Initiative Improvements & Impact

The implementation of these solutions has provided several key improvements from a company and staff level such as:

- a. Increased efficiency of staff due to standardised forms and custom flows within applications which reduces the steps and time required by staff in the course of their duties.
- b. Improved communication between staff on projects, therefore removing misunderstandings and the associated stresses and potential costs that come as part of this miscommunication.
- c. Dynamic access to data enables all staff the access the latest information required to efficiently carry out their duties.

- d. Created a more controlled environment and added several key benefits primarily with regards to HSEQ and covid documentation.
- e. Reduced central IT cost overheads with regards to the constant maintenance and associated upgrades required to maintain an efficient, stable and secure IT platform.
- f. Reduced the administrative IT overhead with regards to backup and disaster recovery requirements for the business.
- g. Improved the overall acceptance and adoption of technology within the business as the benefits are designed with real world situations relevant to our specific business needs.

Summary and Lessons Learned

Initially, the Covid pandemic helped drive the adoption of cloud technology due to the demands for remote working. Now that the technology is in place, it has opened the eyes of users and staff in general to the overall benefits from a cost and efficiency perspective of these technologies.

With constant communication between departments, we have

learned to constantly develop and adapt both our systems and our work procedures with direct input from the end user. These developments are, by design, one of the key components in changing how we work for the better with regards to efficiency. Technology in itself is constantly evolving and the key lies in the marriage of technology with business needs, to make it a better work environment for all.