Global control across multiple projects leads to improved efficiency and faster delivery

QATAR DESIGN CONSORTIUM

Overview

Customer: QDC
Location: Qatar
Industry: Engineering Consultancy
Team Size: 300
Website: www.qdcqatar.com.qa

Business Need

To plan and execute multiple large and small construction projects concurrently, involving multiple departments.

Requirement

To set up an infrastructure that could manage multiple projects concurrently, i.e. a system to execute and monitor project data, work flows, documentation and resources.

To give managers a way to define all the deliverables of a project, capture the design data generated by each user, and route them automatically to all concerned groups in a streamlined, secure manner – and to achieve all this online, and in real-time.

Solution chosen: WRENCH Enterprise™

Benefits

Now able to plan, execute and monitor multiple projects with ease and efficiency. Have a robust, cost-effective platform for all employees to share information, communicate, track progress and enforce quality.

Internally, can share only latest data with all stakeholders, have reduced engineering cycle time through online access of data and reuse of data across projects, and can assure clients of 100% ISO standard being followed. Overall efficiency is up by 25%.

"WRENCH-Enterprise has helped us in quick and effective decision making by providing an Information platform to track all our projects online – from the overall progress to intricate details like deliverables, schedules and responsibilities."

Mr.N.Sivasubramanium, General Manager, QDC

QATAR DESIGN CONSORTIUM (QDC) is a leading Engineering Consultancy, offering world-class professional consultancy services in concept proposals, architectural designs, civil & structural designs, building services designs, project management and quantity surveying. Headquartered in Doha, Qatar, QDC today is a multi-disciplinary organization employing more than 300 professionals, including architects, engineers, CAD technicians, quantity surveyors, project managers and ISO consultants.

Built on its vast experience of being in business since 1977, QDC has developed and implemented ISO procedures at various levels. Periodical reviews and upgradation of these procedures resulted in an Integrated Management System within the company which takes care of organizational decision making at various levels. QDC today is graded #1 (the top grade in consultancy services) by the Professional Accreditation Committee in the State of Qatar.

WRENCH
I.T. FOR ENGINEERING

WRENCH | enterprise™

The Need

To achieve real time control over multiple projects
As an engineering services provider with a varied portfolio of services, QDC has numerous large-scale projects running simultaneously at any given time. Its resources (engineers, project managers, vendors, contractors, consultants etc.) work across several locations and on several projects concurrently. Managing execution and monitoring resources while upholding quality was becoming a challenge as the the number of projects increased.

Before transitioning to WRENCH Enterprise™ as their working platform, QDC relied on manual systems and procedures for most aspects of service delivery – from engineering design to project management to ISO consulting. For example, email and FTP was the only way to share and collaborate on a technical drawing, while manual effort and dedication was the only way to enforce and monitor a project lifecycle.

Integrated Management System (IMS)
Over the years, QDC had designed a comprehensive internal Integrated Management System (IMS) which covered all the levels of the organization from enquiry processing to project handover, but due to the constraints of the working methodology and resources, was not able to realize its full potential. However, after implementing WRENCH Enterprise™, the IMS is being enforced and used to the maximum across the entire organisation.

Summary: Business was expanding rapidly, but running multiple projects had become inefficient, tedious, and costly, and thus the business growth was under strain.

Solution required

Interface between users, data, workflows, and customers.
To manage its increasing portfolio of projects without taking on more resources or compromising on quality, QDC needed a way to efficiently plan and execute multiple projects concurrently. This meant replacing the existing manually-driven working methodology with an automated end-to-end online system. Such a system would have to automate the project lifecycle, optimize quality-management procedures, streamline distribution of responsibilities, manage documentation, and implement an effective resource management process.

QDC needed to:

- **Improve project lifecycle efficiency overall (i.e. across multiple concurrent projects).** This meant automating the project lifecycle, and enforcing all processes and procedures in accordance with ISO requirements.

- **Share project information quickly and cost-effectively across teams,** through an enterprise-wide document management system which would ensure fast and reliable information sharing (and collaboration) across various locations and work sites.

- **Optimize resources and monitor them more stringently.** This required a system that could centralize different elements of project management such as schedules, manpower management and budget control

- **Ensure Adherence to Quality across project lifecycles without relying solely on manual effort (Quality managers)** This meant enforcing ISO, best quality practices and industry standards, which was also a priority under QDC Integrated Management System (IMS) (and so the 'wish list' also called for an integrated technology platform to enforce the IMS effectively)

Requirements:

- Improve efficiency in managing multiple projects
- Implement enterprise-wide document management system
- Optimize resources and enable better management evaluation methodologies
- Ensure 100% enforcement of ISO-required processes.

Solution Delivered

Global project control across all running projects
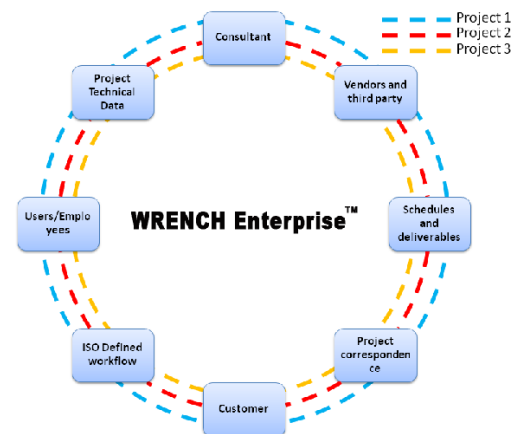
What is a Global Project Control System?
A technology infrastructure that enables engineering companies to:

- Greatly increase efficiency across entire organization via automation and optimization.

- Let all teams work on a single integrated Technology platform in real-time.

- Get location-independent access to all project data so that managers can monitor all project activities at any time, from anywhere.

- Automate key processes and workflows and eliminate human error and data redundancy

- Enable cost-effective and fast document sharing across entire organization with enhanced security and archival features

Taking into consideration QDC's working methodology and existing infrastructure, the first priority was to create a single platform which could give managers control across all running projects. This would enable QDC's management to monitor and track multiple project data, resources, and progress in real-time and from any location - with a few mouse clicks.

WRENCH|enterprise™

The ideal engineering environment – on paper

WRENCH proposed a technology platform or infrastructure that would streamline and automate the project lifecycle from start to finish, including all planning, scheduling, and monitoring activities, and thus cutting down on lifecycle time by at least 60%.

Both technical data and procedural data – drawings, BOQs, tasklists, plans/schedules, correspondence, change notes etc., as well as the status of each deliverable and activity would be available online. This would ensure that the process, teams involved,. and managers overseeing them would be made at least 10 times more efficient. This would also boost QDC's 'Continual Improvement' initiative and keep it ahead of the competition.

WRENCH Enterprise™ Platform
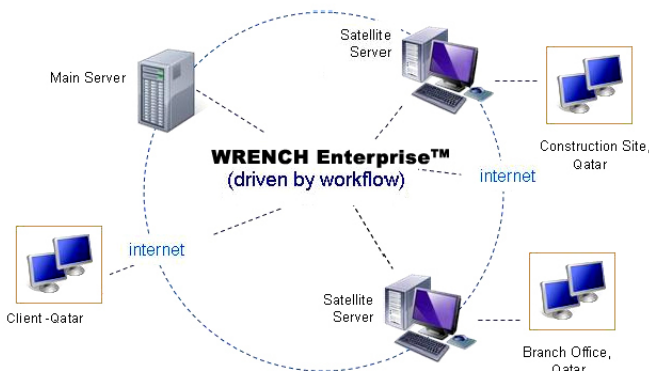
QDC's response to the proposed platform/solution was that it looked 'too good to be true', but if such an infrastructure could indeed be implemented, it would halve engineering cycle time, decrease costs, and increase project lifecycle and resource monitoring efficiency by about 100%.

After three months of implementation, this plan was successfully translated into reality, and it soon became apparent to the QDC management that the implemented system was not just technology, but a business solution that would truly revolutionize enterprise-wide productivity and profitability.

Implementation

After a 2-week system study, the WRENCH team put together a configuration that demonstrated the abilities of the proposed platform and its potential benefits and savings. This configuration was approved, and a pilot project was set up for each QDC project coordinator, followed by 2 months of hand-holding to ensure maximum user confidence in the new system. Two implementation specialists from WRENCH worked with a 20-member QDC team to deploy the entire solution in 3 months.

The existing QDC infrastructure and process at the time of implementation included:

- **Manual system for Pre-Order and Order Handling as per ISO.** This included recording and tracking of enquiries and project assignment and budgeting
- **A Timesheet Management Tool for Budgeting,** which handled distribution of de-equivalent hours and managed resource scheduling
- **Primavera software, used for project planning**
- **Document Management Mechanisms** across a shared network server, used for drawings and Xref management. Hard copy filing and registers were also in use.
- **Manual-driven Quality Process** and Coordination and inter-disciplinary checks.
- **Correspondence Track sheets** (manually maintained) for email correspondence.
- **A transmittal register** which managed transmittal number bookings.
- **A DCR-Document Control Register** to help the manager to monitor projects 'by hand'.

User training and transition

To make the users comfortable and eliminate any discomfort in the new system, the WRENCH team set up a detailed training schedule for the QDC core tem. This not only gave technical expertise in the new systems very quickly, but also resolved the questions and doubts of the employees asked to change their way of working. These comprehensive training sessions were executed for two weeks, and once the core team became confident in the system, they in turn trained the end users with the assistance of the WRENCH implementation team.

Post-implementation Evaluation

QDC wanted tangible and immediate business benefits out of this initiative and evaluated WRENCH EnterpriseTM accordingly.

QDC was not looking for a technology solution or a document management system or a PLM solution. Rather, it needed a practical answer to some very specific real-life bottlenecks and problems that were holding back business growth and impacting the company's profitability.

QDC has reported that one of the key differentiators in the WRENCH Enterprise™ solution was that it addressed QDC's entire organization from the ground-up, and envisioned the solution as a business tool that was geared both to internal methodologies and external market reality.

"Over a decade's worth of expertise in engineering, software, domain expertise of construction industry, plus experience of working with the world's top EPC companies are all built into the latest version of the WRENCH Enterprise product. WRENCH Enterprise™ has no 'frills' or padding. Only features and functionality proven to improve efficiency, save time, or cut costs have been included. Our objective is to deliver significant business value from Day 1."

Mr. Manesh Alias, Product manager, WRENCH

Implementation was successful because it began by assessing QDC's real-world problems and project situation, studying the modes of working and existing infrastructure, and then configuring the already-specialized WRENCH Enterprise™ infrastructure to fulfill those needs (and anticipate future needs.)

Reported Benefits

QDC has reportedly realized tangible savings in time, cost and resources immediately after transition to WRENCH Enterprise™ as their default working platform.
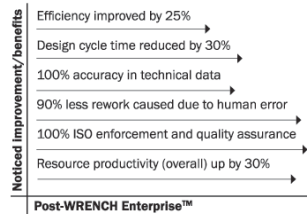
To start with, the automation of WRENCH Enterprise™ across the entire project lifecycle has eliminated human errors and therefore rework. The design cycle is twice as fast, human resources are utilized and allocated optimally across projects, and managers can focus on quality and productivity instead of wasting time in routine tasks – like uploading/downloading files or chasing paperwork and team members.

Further, in the new transparent working environment, the status of each task, document, deliverable, activity and schedule is immediately accessible to any manager, from any desktop, and thus firefighting and crisis management is significantly more effective and less draining on the company's resources and profits.

Timely delivery (and ability to predict and prevent delays and bottlenecks) has greatly reduced losses linked to late delivery or quality issues, and thus the company is geared to maximize profits in the current recessive market climate.

Results

How QDC has benefited by transitioning to WRENCH Enterprise™

- **Enquiry processing** is now system-driven instead of manually-driven and so tracking of enquiries is much more efficient. Response to enquiries is faster, and overall enquiry handling process is proactive and responsive, resulting in cost-effective enquiry-to-conversion effort.

Fig 1. Enquiry processing in WRENCH Enterprise™.

- **Project planning** is now done through the WRENCH-assisted WBS application, which not only 'draws up' the overall project lifecycle with its component sequences, tasks, documents, resources, schedules and deliverables, but also automatically publishes individual 'To do' lists to each team member.

This sets up a well-planned and 'monitorable' project right from the start, and helps the project manager easily define and allocate responsibilities at all levels up to completion.

Project planning is now done through the WRENCH-assisted WBS application, which not only 'draws up' the overall project lifecycle with its component sequences, tasks, documents, resources, schedules and deliverables, but also automatically publishes individual 'To do' lists to each team member.

Before

Fig2a. WBS management before WRENCH Enterprise™.

After

Fig 2b. WBS showing (automated) percentage updation in WRENCH Enterprise™.

This sets up a well-planned and 'monitorable' project right from the start, and helps the project manager easily define and allocate responsibilities at all levels up to completion.

- **Project Monitoring** is now possible in real-time and with a few clicks of the mouse. No more dependency on managers reporting in, or following up manually – all schedules are automatically attached to their tasks and resources, completed work and percentage of completion identified and updated automatically by the system.

- **100% adherence to ISO procedures** . QDC offers ISO consulting as a service, and therefore made it their priority to enforce ISO standards consistently. Until WRENCH Enterprise™, this aspect was handled manually, but now all prescribed ISO procedures are configured into the system i.e. system-driven - and hence practically guaranteed..

How it was done: During implementation, QDC's project process was captured and built into the platform, and now all workflows and procedures are enforced by the system itself. (Example: inter-departmental review is by default integrated with workflow of documents – which means that a user working in WRENCH Enterprise™ will be 'forced' to follow the prescribed steps properly before proceeding to next step.)

WRENCH | enterprise™

- **Remote Access Facility.** Users are now always connected to their projects. They can log in to the system from practically anywhere in the world, to view their project emails, update their to do lists, share files, check on progress etc.
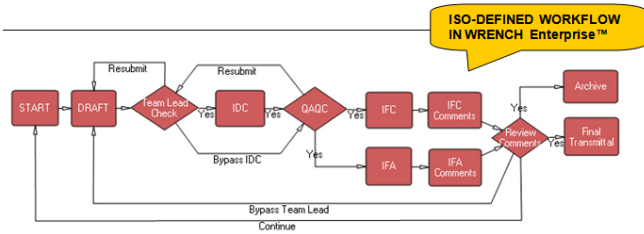

Fig 3. Example of workflow creation (using WRENCH Enterprise™ workflow drawing feature).

- **100% Accuracy and automatic updating of technical data.** In WRENCH Enterprise™, there is no danger of accidentally using obsolete data. The system is set up in such a way that only the latest version of a document is saved, while older versions are made obsolete automatically. Document retrieval is also much easier and faster with the WRENCH Enterprise™ advanced document search functionality.

- **Transmittals in client format.** Project specific numbering and templates were programmed into the system during implementation, thus making it easier for users today to send transmittals in the required formats to clients. Users now have the flexibility to define project-specific numbering and templates with a few clicks.

- **Correspondence Management.** When dealing with clients & contractors, maintaining accurate case histories, documentation, and RFIs is vital to success – and must be managed across all correspondence and users. With WRENCH Enterprise™ managers can ensure that all correspondence/emails are replied to without delay, and can be confident of having all the required data at their fingertips (when providing clarifications). The online backup and retrieval of project correspondence and correspondence threads also saves a lot of effort when compared to the older manual-printed archiving methods. Communication between internal project team is now very streamlined and close looped.

- World-class **document management** is now in place across the entire organization. The existing system was replaced by the shared server system with WRENCH enterprise™ folder structure and Xref manager. The new system of WRENCH-driven document management includes online updation of all related drawings during change/collaboration, and electronic archival which avoids replication - and thus reduces costs even further.

- **Data Security and knowledge management.** WRENCH Enterprise™ is configured to meet future needs and keep pace with QDC's growth. As the industry becomes even more competitive, protecting Intellectual Capital will become a priority. QDC is now equipped with multi-level security which gives managers the option to set up user-specific, role-specific and project-team based security settings, while the archival features ensure that valuable project data (problem+solutions) are easily available for future reuse.
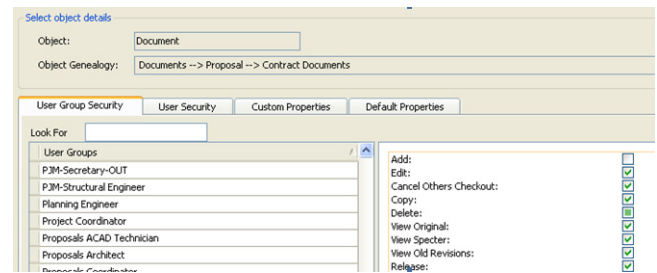
Conclusion

'Always one step ahead of the industry'.

When QDC diversified to 'super vision' projects and ISO consulting, the management recognized the need for a centralized system which captures all the business information real time and which could be accessed from anywhere in the world. The need for an I.T. infrastructure that could achieve the above (i.e. automate project processes, streamline and optimize information flow, and manage all project data and effort) was long-felt, but would have required investment in multiple disparate technologies, like EDMS, project management/PLM, workflow system etc. – and no clear way to integrate all into one single working environment that would increase efficiency instead of adding more work.

With WRENCH Enterprise™, QDC has met all these internal business needs without having to take on more resources or invest in multiple technologies. Not only was the stated objective of a single platform for controlling multiple projects achieved, but QDC has reported significant other benefits from using WRENCH Enterprise™, including dramatically improved resource optimization, quality assurance across the board, and faster cycle time.

QDC is now fully geared to handle all its ongoing projects with ease and efficiency, and is poised to confidently take on even more projects and grow business as per market demand.

"Wrench Enterprise™ has given us a reliable I.T. infrastructure that automates project processes, streamlines and optimizes information flow, and manages all project data"
Mr.Iqbal Singh, Manager- Design, QDC

WRENCH | enterprise™

ABOUT WRENCH SOLUTIONS

WRENCH Solutions Pvt. Ltd is a 17 year-old ISO 9001-2000 certified Software Product Development Company. It develops and implements the WRENCH suite of IT products that provide end to-end document, process, and time management solutions for the engineering sector. With 60% market share, WRENCH SOLUTIONS is India's leading player in the domain of information and process management for medium-to-large enterprise.

Head Office
WRENCH Solutions (P) Ltd
76, Facile Towers,
Victoria Road,
Bangalore - 560 047
Karnataka, India.
T: 91-080-25304170
F : +91-80-25546054

R&D Centre
#16A, B Block, CSEZ
Kochi - 682037
Kerala, India.
T : +91-484-2413343, +91-484-4058880
F : +91 484 4058881

APAC office address
75 High Street
Singapore 179435
T : +65 6595 6269
F : +65 6595 6299

UAE Address
P.O.Box: 120275, Y2 Block,
Room No: 338, SAIF Zone
Sharjah. UAE,
T : 00971 50 5680427

WRENCH
I.T. FOR ENGINEERING

www.wrenchepc.com
www.wrenchsolutions.com