

Saadiyat Beach contractors turn to WRENCH™ for enhanced document control and project management.



About the project



The \$600-million St. Regis Hotel project is a luxurious spa resort with apartment complex and detached villas. It is one of a number of high-end resorts planned for a 9-kilometers stretch of shoreline on Saadiyat Island, just 500m off the coast of Abu Dhabi. The project is slated for completion in Aug 2011. Construction giant Al Habtoor (a Murray & Roberts Joint Venture) is the main contractor.

About the client

Murray & Roberts is a major player in construction economy of Africa, Middle East, Southeast Asia and the Americas. They undertake building, infrastructure, mining, industrial, energy, power and environmental projects. In partnership with the Al Habtoor Group they completed their first project, the iconic Burj al Arab Hotel in Dubai. Other noteworthy projects include the Dubai International Airport Terminal 3 and Concourse 2, Etihad Terminal and multi-storey car park at Abu Dhabi Airport, and Sheik Zayed University in Abu Dhabi. The company today is known as a world class contractor in the successful delivery of major and mega projects



The Need

The client wanted a more sophisticated electronic document management system than the one they were using. (They had ACONEX and also used Primavera P3 for project planning.) What they wanted from the new system was a way for the engineering department to streamline and optimize its output more efficiently. WRENCH enterprise offered them multi-faceted document management/control, as well as a way to plan and monitor engineering deliverables.

Situation before WRENCH™

Everything was managed manually and through human effort. The team tracked drawings and subcontractor submissions with manually-updated MsExcel registers (which were not always accurate or up-to-date). As a result, site resources were completely dependent on the document controller for information - a tedious and time-consuming process on both sides. Updates were also manually recorded and communicated to concerned parties, which meant that an update typically took one full day to reach the end user. Constant bottlenecks included ineffective change management, accidental use of incorrect/obsolete document versions, a high degree of rework (due to unavoidable human error), and unreliable methods of communicating changes within the team.

The client subcontracted all the design deliverables, but used the manual-driven monitoring methods to manage them. Files were stored in simple folder structures, revisions were managed arbitrarily, security was low to non-existent (no watermarks or passwords). The result of all this was a non-systematic, inefficient, and inaccurate working environment which taxed the resources and wasted a lot of time in routine tasks. (For e.g., to find the 'latest' version of a drawing, an engineer would have to check the excel register and then manually browse each folder structure until he found what he was looking for.) Costs were also high because hard copies were used extensively to record project activities and transactions (including transmittals.)

Situation after WRENCH™:

“The Wrench Implementation was a major success and has undoubtedly helped us to stream line our process and enhanced our overall productivity”

Colin Pickering, Project Director
Saadiyat Beach Resort Project.

The client's manually-driven working culture was replaced by a digital, automated, and highly efficient system. The client now has:

- Centralised system for document management and publishing
- Proper document archival structure – secure and organized.
- 100% online registers (for managers)
- Easy, fast document search and retrieval
- A common web-based platform for collaboration/ interaction
- Online dashboards (for managers to get real time status and reports)
- Integrated I.T. platform including client's existing software. Bidirectional integration with Aconex was set up to smoothly exchange documents between the client and client's consultant (Mirage Mille)

Improvements:

- **Automated updates:** Site resources need no longer wait for updates/information from document control - instead they get information instantly from the WRENCH satellite system (on site). The time saved in this alone has been enormous.
- **Reliable and easy version control** The WRENCH team configured online registers for the site resources to identify the latest version (filtered to specific dates) immediately and with 100% reliability.
- **Correspondence management:** A unique feature of WRENCH compared to other EDMS is its integrated email management functionality which manages ALL project-related data and documents (not just technical drawings). Before WRENCH, the client used emails minimally (rarely for official letters) and their archival system was completely offline i.e. hard copies. Users would scan and store letters in an S drive and log the mails in an MsExcel register. This unwieldy system was replaced with an online, automated, and auditable email management tool. Now each correspondence and its trail can be archived and recalled with a few clicks – a boon in case of conflict or dispute. (Appendix A, fig. 1) Since all the mail is digitally organized and maintained, it is not only extremely easy to use but also much less costly (paper consumption, printing etc.).
- **Project Management :** WRENCH is a project control system with advanced document management at its core. The client initially chose WRENCH for its documentation functionality, but by the end of the implementation process they realized what significant improvements had been made to project management as a whole. For example, instead of using Excel registers (updated by engineers) they now track work and monitor deliverables entirely online. This makes progress assessment very accurate, and is also much faster, easier, and efficient. (see Appendix A, fig. 2)
- **Automated Reports :** WRENCH has a powerful reporting function which replaces the tedious process of collecting, verifying, and compiling data with a few point-and-click steps. The user simply selects the template, the report details he wants, and the report is formatted and transmitted within minutes. And since it uses automatically-captured data, all the information in the report is 100% accurate and up to date (no need to verify). (See Appendix A, figure 3)

Benefits

Productivity in the department is now up by 25%. The number of human errors in document management has dropped to 3%. Paper consumption is 40% less, and quality in each technical deliverable is an amazing 100%!

To conclude, although the client expected a good robust document control tool, by the end of the implementation they were extremely pleased with how it had evolved into a 'complete project control tool' used by all departments. ■■

Appendix A – Screen captures



  Al Habtoor Murray & Roberts JV HMR831-Saadiyat Beach Resort						
Outgoing Correspondences Register						
SI No.	Date of Correspondence	To Whom	HMR Reference	Subject	Originator	Response Receive Reference
1	12-Sep-09	100 (General)	HMR831- 1.1.1-MAP-tmw-L-0033 (TDIC)	Retention Bond And Amendment to Advance Payment Guarantee		
2	28 Sep-09	100 (General)	HMR831- 1.1.1-CP ch L-0061 (TDIC)	Outstanding HMR - EPP- Submissions		
3	01-Oct-09	100 (General)	HMR831- 1.1.2-MAP-Sjk-L-0073 (TDIC)	Saadiyat construction Village Agreement		
4	25-Oct-09	100 (General)	HMR831-103.001-09-0116-LET	Outstanding Submittals / Robodh	CH	
5	25-Oct-09	100 (General)	HMR831-103.001-09-0119-LET	ERP Nomination æ BK Gulf	CH	
6	25-Oct-09	100 (General)	HMR831-103.001-09-0120-LET	HSE Representative Nomination - Robodh	CH	
7	25-Oct-09	100 (General)	HMR831-103.001-09-0121-LET	BK Gulf Submission	CH	
8	25-Oct-09	100 (General)	HMR831- 103.001- 09-0116-LET (TDIC)	Outstanding Submittals -Robodh		

Figure 1: Incoming Mail register



TDIC		mirage		Saadiyat Beach Resort		 						
SHOP DRAWINGS				UPDATED : 19 November 2009								
Contract: Saadiyat Beach Resort - Saadiyat Island, Abu Dhabi						Contract No: 831						
Trans. No	Rev	Area	Drawing no	Rev	BBS	Description	Review Status			Aconex Ref		
							Actual submission date	Due Date	MMLD's action date		Status	
SD 00001	0					Proposed shop drawing title block	09-08-2009	23-08-2009	13-08-2009	4	A	LETTER-000650
SD 00002	0		HMR-SK-00001			Grid of ground levels existin at site handover with survey control points & benchmarks	18-08-2009	01-09-2009		93		
SD 00002	1		HMR-SK-00001			Grid of ground levels existin at site handover with survey control points & benchmarks	30-08-2009	13-09-2009		81		
SD 00002	2		HMR-SK-00001			Grid of ground levels existin at site handover with survey control points & benchmarks	03-09-2009	17-09-2009		77		
SD 00002	3		HMR-SK-00001			Grid of ground levels existin at site handover with survey control points & benchmarks	19-10-2009	02-11-2009	29-10-2009	10	B	

Figure 2: Master document register (configured as per Project Quality Plan format and generated by WRENCH

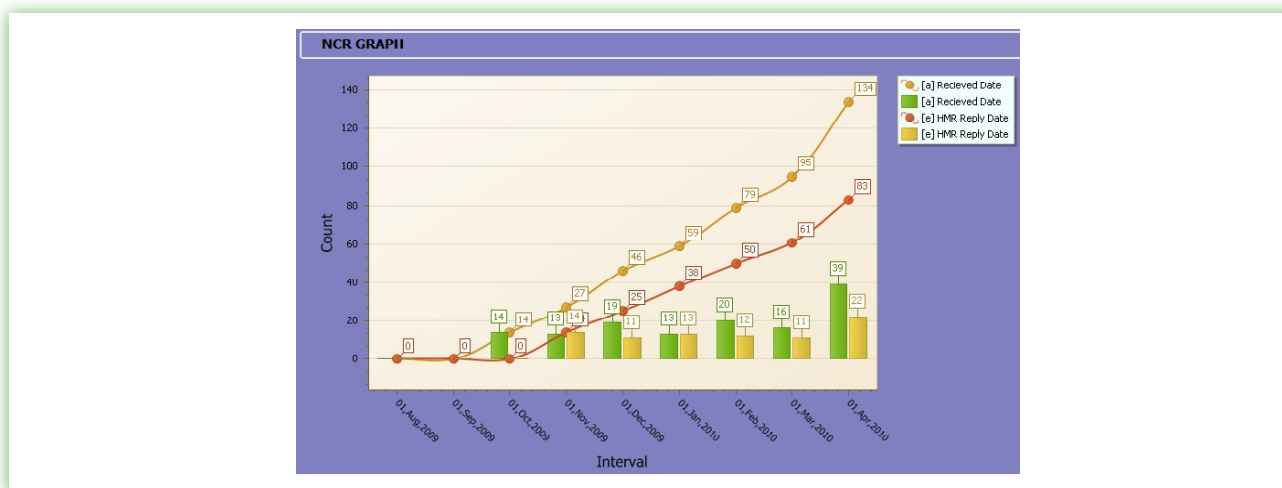


Figure 3: System-generated reports: Sample Response Curve with statistics: Submitted Vs Response Trena