

Why we chose WRENCH™ for end-to-end project management

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About this document: This case study is a first-hand customer account of using WRENCH™. It explores in detail the challenges, needs and requirements which led to their trying out a new technology, and lists the benefits they have gained (based on real-world data)

Company

We are the only company in Asia that provides TOTAL water solutions. Our parent company VATECH started in 1924, based in Austria. In 1996 we started our Indian operations with six people. In 2007, history was made - the Indian child bought over the European parent, and then VATECH took over WABAG worldwide, becoming today's VATECH WABAG. In 2001 we were 25 million USD, the only company in our domain that is ISO certified, and we have crossed the 100 million dollar mark.

We build, set up and operate all kinds of water treatment plants, including drinking water, industrial water, desalination, municipal water and sludge water treatment, in short - everything that can be done to water.

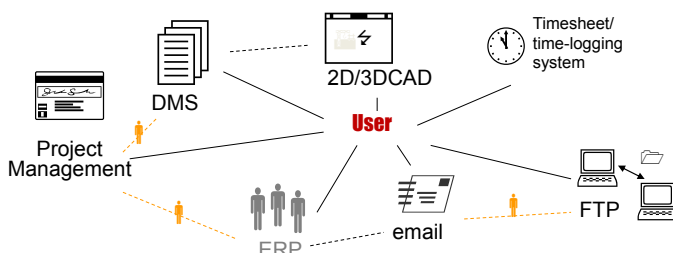
We have fifty patented technologies with a good R&D team located in Switzerland.

Situation

Like most small companies, operations initially were easily manageable, but rapid growth between 1996 and 2003 (450% turnover and 650% more business in six years) created a lot of challenges for us – we became a big and complex organization with many bottlenecks and shortfalls, especially in work culture and pace of work.

Technology in use before WRENCH™

We used a static document management system, Primavera™ and MSProject™, MSeExcel™, AutoCAD™, legacy of ERP and of course timesheets.

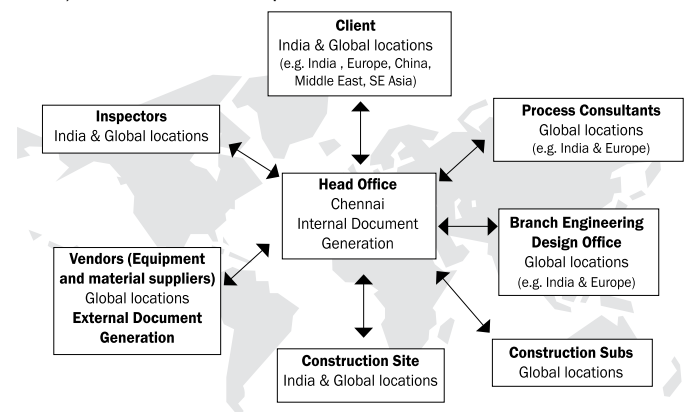


Business Challenges

Stringent Quality requirements: Water treatment projects don't have the luxury of 'allowances'; clients require the water to be in exact ppm and a single unit, either way means rejection by the client.

Insufficient project management: The honeymoon period of a project is the first three months, or the first 10% of a project cycle (most projects last from one to four years). After this, we suffered because our project management system was inefficient – in fact, completely manual.

Geographical locations: With clients worldwide, construction sites all over the world, design offices in India at two places and at Austria and Switzerland, vendors all over (as we were doing global procurement). It became too complex for us.



Documentation: We had multiple systems and standards for this. Documentation in India was different from the documentation in Europe, documentation in Europe was different from the documentation in Germany and China...it was chaotic. This started affecting the timely completion of projects, which was our trademark and promise to clients.

Quick Facts: 20% of our projects started getting delayed. We don't work on 30-40% margin, our company works on a margin of 15-20%, and out of this 10% is LD. So the cost incurred - if time exceeds 15% we lose LD, clients don't have mercy on us; straightaway we lose 10% and the remaining 10% is used to pay for resources.

For us resources are very scarce. So we started to lose profits (projects started going down from 25% to and from 15% to profit of 5%).

Pain Points

- Security:** We have a lot of patented technologies which were not adequately protected from accidental or deliberate misuse.
- Data Accuracy:** Errors in data lead to errors in deliverables. The lack of consistent accuracy in project data had become a major problem - in our line of work, the smallest change can have far-reaching consequences. For example: if changes made to a mechanical pump base spring are not communicated to the civil engineer, the results are disastrous, because water treatment is designed as per the hydraulic flow and a simple change of, say, two meters affects the entire hydraulics, which in turn affect the entire vessel.
- Accountability:** Interdepartmental checks are necessary, but do not always happen as they should. We used to see a lot of drawings with a note attached saying "I have checked this". But in reality it would not have been checked.
- Data Retrieval:** We were completely dependent on the individual draughtsman concerned. Often we would not get the latest drawing, or the data in the server was not updated from his workstation, and so on.
- Project Management:** The most crucial bottleneck. We used the thumb rule to calculate work progress, which was inefficient and inaccurate. If five out of ten drawings were 'done', we assumed that 50% of the timeline for that task was done. Whereas in actual fact the remaining 50% took 90% of the time. We had no way to record actual project progress.
- Cost Control Management:** Managed by individuals, also following the thumb rule. We used to budget time per task on paper using non-factual data. Example: We calculated five days or forty man hours to produce eight drawings and calculated costs based on this. But in real life what happened is that one drawing could take 20 hours! Controlling cost was a nightmare.
- Standardization:** Due to each individual's requirement, standardization was a big problem. Despite storing all templates in our server, we could never standardize.
- Change Management, Revision Control, Claims:** Example: The piping engineer changed the load location, but did not convey this change to the civil engineer, nor to the cables engineer - and ultimately this change was not communicated to the construction site. The construction site would have revision-3 drawings, while the rest of the team had revision-4. And there was no traceability or accountability! The Engineer would say "I released it but the secretary did not send it". But by then serious damage was done for the company. There was no way to track changes or comments. Clients usually send comments by email, but emails get deleted, so there was no record. We had very poor claim management - many legitimate claims but no proof!
- Collaboration & Communication:** Communication is vital to our project management. For a one-hour project review meeting, we spend two days preparing for it. One person spends time to update the progress, which means that collecting information alone takes up to two days. The meeting itself is just one hour, and in short span, more time was spent trying to verify which data is accurate. And so a decision-making meeting is wasted in fact-checking and followup with each other.
- Knowledge Management:** Every drawings used to be started from scratch because we did not have a knowledge management system. We couldn't attach drawings to our existing docu-

ment management system, even though all past drawings were stored in the server. We couldn't retrieve the drawing from the server since we did not know which version. Projects that should have been referred from previously executed ones and done with low margin, ended up afresh. Reengineering for our projects (which could have been done using the data from our previous references) means a loss of advantage.

Choosing a Solution

We started looking for a good project management tool which included document management. We wanted a fast, lean & simple system to handle pre-defined workflow processes, resource scheduling and security.

Wish list: Being able to enforce our predefined work process was very important so that no-one could skip the required procedures. Report transmittal was also a challenge and we were hoping it could also be generated from a system.

The features we wanted were:

- Project management
- Workflow and scheduling
- Email and communication
- Document management
- Data security
- Knowledge management
- Integration with our existing systems

However, good project management and resource planning were our core requirements, since our resources were/are scarce. And of course good data security was also important.

Products Evaluated: Document Locator from Columbia Soft, Document Management from Admero, Engineering Document Management from AMS, Engineering Document Management Software (CAD Centre) and WRENCH enterprise™ from WRENCH Solutions.

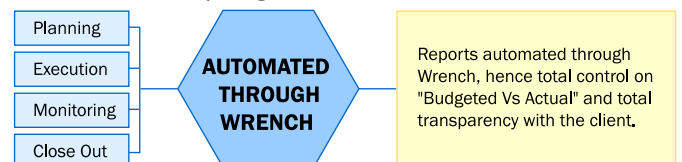
The first three did not satisfy us at all so we had to decide between EDMS and WRENCH™.

We used the following criteria to evaluate:

- should have an EPC customer base
- should have good integration with existing software
- high quality references.
- remote (project control) and good practices of project management.

Why we chose WRENCH™:

Because it had everything we wanted...and more.



- Handle Pre-defined Process flow
- Web-based technology so accessible to all offices
- Past references of Smooth Integration with existing Software's
- Control of centralized data storage and automated file replication
- Speedy data Retrieval & High data security
- Online Project Mgmt. & Seamless integration with Primavera & MSP
- Time reporting & Resource Plan @ Document level
- Mail Management & Meeting actions follow-up
- Gateway for Standardized Templates
- Remote Control World wide
- Customization flexibility & Good Reference
- No AutoCAD licenses for viewing of drawings
- Post implementation support
- In short Good ROI

Assessing the Results:

Examples of how we use WRENCH in our day to day routine

Scenario 1: Planning and progress measurement

We do level 5 planning. We always need to know the progress, and we always need specifics. WRENCH™ allows us to capture exactly the progress data we need, as it happens in real time. So if the progress is 25%, we can define in which area exactly it has happened. If construction, then which aspect of construction? If excavation, is it 0-5 mts, 0-3 mtrs....? WRENCH™ lets us plan down to that level, which is necessary because we also plan our resources at that level.

Scenario 2: Time management

Our sites are very far apart and sometimes there are cultural or geographical challenges. WRENCH™ has helped us refine our processes to work more efficiently. For example, when deploying resources overseas we have to give exact timelines because Europeans are expensive. In India, things are more relaxed, so we can say 'around 10 months'. But while dealing with Europeans we need to say '10 hours', because 10% of the cost of a euro-project is spent on resources.

Scenario 3: Allocating resources

To do resource planning we need good project management. Our company works on the concept of PMI – Pink book, Limited resource, time. Cost and quality with good customer relationship; with WRENCH™ at our back, now we work perfectly on this system.

Scenario 4: Sending and sharing files

WRENCH™ gave us efficient project management and excellent document control. I can now say exactly when a drawing should go – and it goes! I can correctly gauge when revision-1 should be done, how many revisions should we anticipate (man hours are dependent on this factor) and so help the information to travel smoothly. Depending on the client, a Project Manager needs to define the man hours and the number of revisions. We generate about a thousand drawings per project so the earlier manual system of planning was very inadequate. We needed a proper system – and WRENCH™ fit the bill perfectly.

Scenario 5: Automating workflow

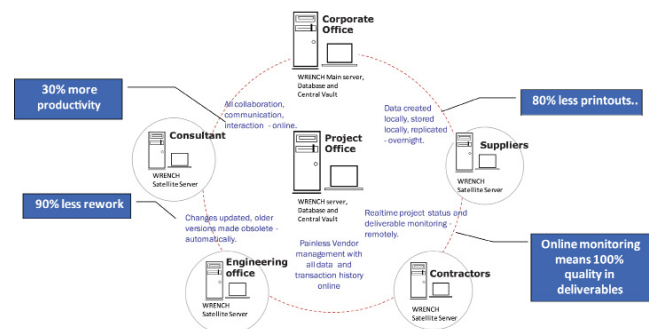
WRENCH™ enforces our pre-defined workflow i.e. our company's workflow developed over the years. (It is not a standardized workflow defined by the system or by WRENCH, it cannot be, because workflow changes from company to company and it depends on the product or project. This adaptability is one of the reasons we went for WRENCH™). Project management is the same across the world but project lifecycles are different, and WRENCH™ has a solid pre-defined workflow engine, using which we were able to define and enforce workflow across all levels of our organization.

Measuring the results:

Where we are today:

- **We are an efficient virtual team in a chaotic real-world environment.** WRENCH™ works on a web-based technology which helps us provide access to offices in all geographical locations.
- **We are getting more out of previous investments.** WRENCH™ integrates smoothly with our existing systems, including ERPs like SAP and Oracle. (We were initially concerned about how it would integrate with the old infrastructure.)

- **Our data is secure, and easily accessible.** We wanted to keep the data in India where employee cost is low. We also wanted to give users in Europe the confidence that they could get drawings immediately instead of saving/copying for a long time (our drawings are huge in size). Since WRENCH™ has a facility for automatic replication, this aspect was taken care of also. Now our data retrieval and sharing is incredibly fast.
- **We can communicate easily, at any time.** WRENCH™ has very good facility for mail management and meeting follow-up. By the time one set of action points is done, it is time for the next meeting, and so following up is an ongoing challenge. WRENCH has a minutes-of-meeting tool (MOM) that makes this very simple. Now meetings are done, communicated and everyone is updated, and only after that are the action points identified.
- **We can anticipate and avoid problems.** We don't work on a task force concept, our resources are shared across concurrent projects. One engineer may work on three projects at a time. It is like a matrix concept - if an engineer does not know his work load, he may make unrealistic commitments, especially when under pressure at various project meetings, and ultimately he will be unable to deliver. WRENCH™ supports capacity planning so that after the resources are assigned to a project, the manager knows the load of each and every resource, the number of hours he needs to work and can make adjustments as necessary to ensure on-time delivery.



Long-term Benefits:

Our management has benefited tremendously from WRENCH™. **Better decision-making** is one of the first 'bonus' results we noticed, and now our managers have all the data at their fingertips to take critical decisions quickly e.g. to shift an activity, assign more resources, etc.

We also now have **better resource planning** (at the bidding stage not during execution). With WRENCH™, based on the scope of work provided by marketing, our engineering department calculates the work load and the date by when they can deliver the output for a project. This helps them plan resources for the next year and make sure they deliver their outputs as agreed. (The engineering head is responsible for the manpower, hiring and training the resources required.)

Domain expertise to the rescue!

When WRENCH™ told us they were adding a facility to attach a drawing to a task, we at first said "no, thanks!" because we never knew that we could also view the drawings directly. (We thought they were just trying to sell us something else!) Then they showed us how we can view the drawing using an inbuilt viewer instead of using AutoCAD separately...it is such a useful feature! Earlier we had to buy many licenses of AutoCAD to provide access to them to view. But with WRENCH™ we have solved this problem.

and their availability.) So if I, as senior manager, take a project and then move a resource from one project to another existing project, the latter will get affected and we will lose our margin (15 - 20%) because of the delay. WRENCH™ allows me to foresee the impact of any decision and so I can prevent common problems and bottlenecks. That is the importance of the enhanced resource planning we now enjoy in WRENCH™.

Our delivery record has improved, in fact we are living proof of how efficient project management and resource planning ensures **on-time project completion**.

We also have more business opportunities, now that we have a reliable system to handle multiple projects across the globe. We can handpick the projects we want. If resources are a constraint, if the margins are only 7% or 10% - we just don't bid for that project - bid decision is based on capacity planning, and now we have a good system for capacity planning. So our business growth has become more manageable.

By adopting WRENCH™, we not only solved our problems in the present, but made ourselves **ready for the future**. We have learned a lot from the WRENCH™ team; they see a lot of clients in this space (whereas we see only one vendor!) and they have met many worst case scenario clients like us; so they have a lot to offer over and above the technology itself. We have changed to some of the processes they have advised.

Summary:

We are extremely satisfied with our ROI from WRENCH™ and I am happy to say that in short -

“Our Dream Came True”

Future Plans:

We will be implementing WRENCH™ in all our sites and offices globally, so as to stay connected.

We have just implemented an ERP called IFS™, and we plan to integrate it shortly with WRENCH™. We have a good inspection software and we plan to integrate WRENCH™ with it also.

In future, we also plan to give client access to the drawings through WRENCH™ so that we can work with clients online. (Aging date can be reduced extensively when everyone works in the same platform).

Conclusion:

There are many aspects to water quality - we take care of them all.

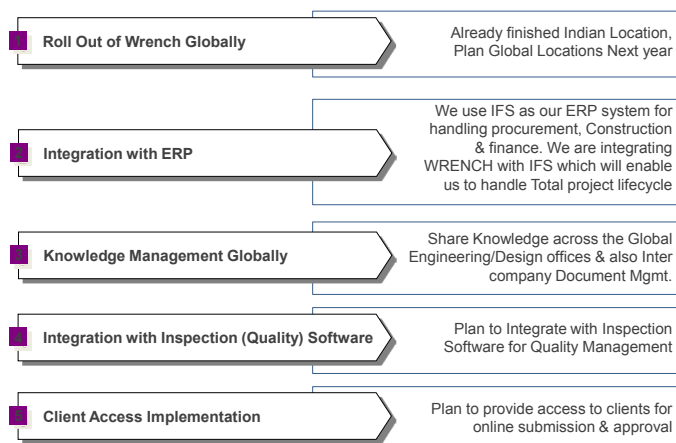
There are many aspects to our business process and project management - WRENCH™ takes care of them all.

“By the click of a button I can get the progress. Another department is not required to sit and calculate the progress. The process flow could be defined, and as the document travels WRENCH™ records the progress automatically.”

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To learn more, visit www.wrenchamericas.com or mail us to getinfo@wrenchamericas.com