

Maintenance in China

Siveco China Newsletter July-August 2010

Special
FM

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Interesting times (again) in the Chinese FM market

With the Shanghai World Expo in full swing and Beijing's ambition to become a "world city" gaining more international media coverage, we can sense renewed interest, bordering on frenzy, in FM circles. I have, in the past few weeks, taken part in several debates on the emerging Chinese Facility Management market, discussions usually involving starry-eyed foreigners hoping to sell their products and services to the "huge" Chinese market... Last time I checked, however (see previous newsletter article) ⁽¹⁾, most FM-related suppliers were still struggling to grow their business profitably.

In some respects, I believe we have entered a vicious circle — a phenomenon that will durably affect the local FM market: suppliers take orders with very low or imaginary profit margins and subsequently face problems to deliver, which in turn causes customers to doubt the value of their services. More often than not, we see suppliers, foreigners and locals alike, trying to replicate a Western model at a lower cost: my experience is this does not work in China. Instead, we need to create homegrown models, to invent new solutions: this is the true opportunity of China.

In this context, I found the recent declarations by US Secretary of Transportation Ray LaHood during his Shanghai visit in May particularly heartening: Secretary LaHood called for Chinese railway companies to bring their high-speed rail expertise and technologies to the US! By 2012, China is expected to have more high-speed rail track than the rest of the world combined: having successfully overcome the fantastic challenge of building such a huge, technologically-advanced, infrastructure, China must now invent ways to maintain it. Considering China's present shortcomings in the area of maintenance and the sheer scale of the facilities involved, it is unlikely that either existing local practices or Western recipes can apply... We must create something fundamentally new.

In the meantime, our ambitious little newsletter, which attempts every month to explore what I have come to call "Maintenance with Chinese characteristics", has grown rather well, thanks in no small part to our talented marketing manager Fiona Yan (featured in this issue). On top of a subscribers' base of around 400, over 3,500 people have also received a printed copy of the June "Lean manufacturing" issue! Feedback has mostly been positive, with a demand for more practical topics.

Welcome to the summer edition of "Maintenance in China"! As some of our customers' activities slow down during the summer, we have decided to release only one issue for July and August, which will also be distributed in magazine format at the "Workplace & FM Asia Summit" held in Shanghai on September 9-10. You will find that this edition has strong FM overtones, though I believe most is applicable to other industries as well.

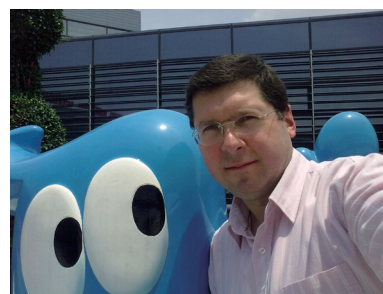
The Reliability section focuses on the improvement potential in FM, from the owner's perspective, followed by a Customer story (Chang Cheng Property Group, a leading residential property management company headquartered in Shenzhen). The Partners section features PCVue, a highly innovative supplier of SCADA and HMI, on the topic of energy efficiency. Tips & Tricks covers contract management, an often underutilized module of our CMMS Coswin. Finally, the Latest News presents an overview of this month's activity at Siveco China.

Although it may look like we have become a publishing company, Siveco is still active in maintenance projects... We are especially proud to be conducting audits at the Shanghai World Expo (the excellent Spanish pavilion makes for a very interesting study, with a focus on the post-Expo life of the facility). As I write these words, we have Siveco engineers working on maintenance improvement projects in nine different cities (Beijing, Changshu, Datong, Hohhot, Shanghai, Shenzhen, Tianjin, Wuhan and Xuzhou).



*The Spanish Pavilion at Expo 2010
Source: www.architectmagazine.com*

The Shanghai summer is as hot as ever: especially for plant managers fuming (pun intended) against typically ineffective air conditioning, my advice is to ask your maintenance staff or FM contractors to clean coils and filters and if problems persist, to check for leaky air ducts. Don't trust paper records: instead, get the job done. Talking about heat, have you experienced the innovative water-sprinkling cooling systems in place at the Expo? This is the paradox of China: advanced, creative solutions cohabit with a lack of basic preventive care. Our Siveco business is making use of one to improve the other — and it works!



Bruno Lhopiteau
General Manager
Siveco China

(1) [Link: http://tinyurl.com/forewordaprilEN](http://tinyurl.com/forewordaprilEN)

The potential for improvement in FM

This article is a slightly modified and updated version of a paper published in Chinese in GongKong China Industrial Automation Observer in June 2008.

Introduction

While maintenance and facility management expenditures tend to be considered low in China (cheap labor, locally-made spare parts, cut-throat competition between contractors), studies and experience show that companies' top executives still focus on reducing them. Outsourcing decisions are, for example, usually motivated by an immediate reduction in maintenance spending. Unfortunately, this legitimate focus on short-term Opex often exacerbates existing problems, such as the under-spending in preventive maintenance that is so prevalent in China. This results in huge additional costs further down the line, often in the form of abnormal reinvestments (shorter life-time of equipment) or consequential losses (e.g. higher utility bills). This article will attempt, based on Siveco's long practice of maintenance in China, to identify where the true potential for improvement lies, i.e. what the priorities should be in terms of FM improvement.

Throughout the article, we will illustrate our points with real-life stories from a large, unnamed, retailer operating in the Chinese market. This retailer is rather typical of large multi-site facility owners in China and similar situations can also be found in smaller companies.

"Maintenance is cheap"

In one way or another, this is the comment we most often hear from companies in China. Inevitably, our interlocutors have only thought about labor cost, sometimes also counting other direct expenditures such as parts and contracts. In many cases, the exact cost of maintenance is in fact not known, for example a major piece of equipment replaced after a breakdown may be treated as a new investment, totally unrelated to maintenance.

When asked about issues they face, maintenance often doesn't rank at the top of the list. Their concern is elsewhere: energy efficiency, the need to be green to enhance corporate image, construction and the usual HR issues. The link between maintenance and these other areas is rarely discussed. Simple observation shows, however, that they are tightly related.

There are, of course, exceptions, usually companies that operate a large portfolio of properties and have already experienced the full life-cycle of a facility in China or perhaps major incidents. A stable management team, with experience in this country, helps: the high turnover observed at most companies – local managers on a fast-track career or expatriates on 2 or 3-year contracts – has proven highly counterproductive in this regard.

Another look at maintenance

Experience shows that maintenance has a dynamic effect on the whole facility. If maintenance is poor, the installation will never reach its full potential and will never be as profitable as it should be. The figure below illustrates the typical cost/loss breakdown found during Siveco audits:

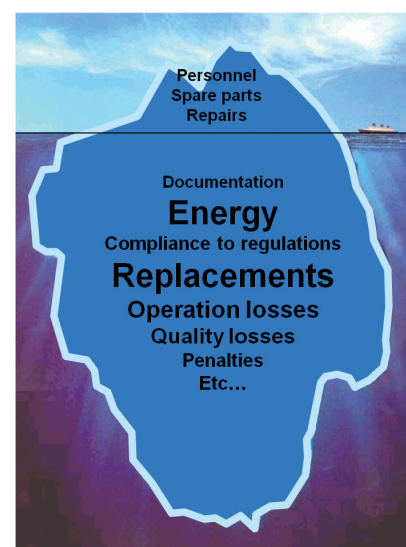


Fig. 1 – Typical "iceberg" of maintenance costs

Our large retailer experienced an incident that raised awareness of maintenance among the management team, composed mostly of experienced China managers: one of the stores had to close for the day, because of an electrical failure with the main transformer. The backup diesel generator did not start (it had never been tested). Losses: one full day of business, all the food in the refrigerated areas, not to mention the company's image. This added up to four times the store's annual maintenance budget... The failure was later traced back to a small electrical component that had been replaced with a cheaper locally-made part – a saving of a few hundred RMB.

Audits conducted at other stores also revealed poorly maintained HVAC (very dirty coils and filters) were the norm, in spite of up-to-date maintenance records. Clogged filters could add 10-20% to the HVAC electricity bill, which represents close to 40% of the total (see Siveco partner on page 6). The resulting losses were estimated at two thirds of the annual maintenance cost.

A more in-depth facility assessment was conducted in another location, revealing abnormally fast aging of the facilities, with a need to replace a number of major equipment and to launch preventive maintenance routines.

4 Reliability

The company decided instead to run the store “to failure” and to refurbish the entire facility as part of a coming expansion project. In effect, the indirect cost of poor maintenance (early replacements) was hidden in construction budgets, a very common phenomenon in China, where companies have historically experienced fast growth.

Where to act

Even in Europe, surveys show that direct costs, i.e. the top of the iceberg, represent only one fourth of total maintenance cost – the figure tends to be much lower in China. Where should we act for maximum benefit?

Benchmarking analysis conducted by Siveco across a large numbers of facilities all over the world show that only 10-30% reduction is achievable on direct costs, i.e. on average 5% of the total. This is, of course, significant, but pales in comparison to a 20-70% reduction achievable on indirect losses (operation downtime, cost of spares in stock, abnormal Capex, energy losses etc.) adding up to over 50% of the total. All added, possible improvement on indirect costs is, on average, 10 times higher than possible improvement on direct costs. To sum it up: for every 1 RMB you can save on direct costs, you can probably save 10 RMB on indirect costs.

The conclusion is that most often the greatest areas of benefit are not in cutting manpower or subcontractor costs (although opportunities may exist, especially in organizations suffering from fraud in the purchasing process) but instead to look for ways to reduce indirect costs

Our retailer’s early response to maintenance issue was to look for good facility managers at store level and to appoint someone at headquarter to coordinate activities. Recruiting such profiles proved to be impossible... and the best resources ended up working instead on new construction projects, to support the group’s rapid expansion.

A third-party engineering company was appointed to design preventive maintenance procedures for one of the stores, with a paper-based maintenance system to record completed tasks. Maintenance plans remained in their folders and were never put into use.

Another project was then conducted on three pilot stores, still under construction. The facilities were entirely documented in a centralized maintenance management system setup at headquarter. Using existing know-how from technical teams and equipment suppliers, the system helped train the stores technical teams before opening. From day one, failures were recorded and analyzed on a regular basis, a seemingly

simple task that delivered quick results: in one of the stores, after only 4 weeks of operation, analysis showed that most problems were related to lifts and were the responsibility of the supplier (poor installation, bad quality of parts used). The pilot project raised awareness of maintenance across the entire organization, to store managers, financial managers and the top management team and was considered a first success.

Based on this first achievement, vendors of sophisticated monitoring systems and equipments convinced our retailer to stuff their new-built stores with sensors and to rely on an external control center. While the initial improvement project was designed to increase the know-how of maintenance personnel and to support better management decisions, with the help of a simple technological tool, this new project focused on reducing dependence on “incompetent technical staff”. By relying on technology suppliers, the fundamentals of maintenance had unfortunately been overlooked. The high-tech sensors suffered high failure rates: without in-house skills for such repair, the retailer tied themselves to a specific supplier for years to come. The external control team, involved in all procurement decisions, faces risks to become a new “corruption central”. A vendor’s dream come true, but a true maintenance nightmare for our retailer!

Our partner article on page 6 also touches on this subject: the intelligent building vs. the intelligent owner.

Conclusion

Although opportunities to reduce Opex in the short term do exist, a focus on cutting down the much higher indirect costs will be more beneficial, providing quick ROI and having a major impact on the Life Cycle Cost of the facility. Recommended actions plans will often not result in an immediate Opex reduction: in fact a slight increase may be needed in the initial phase, as the current level of preventive maintenance may prove insufficient. It is also worth noting that such improvement projects, in the form of service contracts, do not require major capital investments, as opposed to purchasing energy efficient equipment, Building Management Systems and other hardware.

Time will tell how the situation evolves for our retailer. Our advice is to go back to the basics, to focus on helping in-house managers raise their skill level, rather than rely on third-parties with their own agenda. Decisions to automate stores should be gradual, based on careful analysis of their impact (positive and negative).

What is your iceberg of FM costs? [Contact us for an audit!](#)

Unified FM system key to continuing service level improvement for leading property group

Changcheng Property Group (CCPG)

Changcheng Property Group Co., Ltd. (CCPG) (www.ccpg.cn), the first joint-stock property management company in China, ranks among the top 3 local Facility Management service suppliers. With operation in 23 provinces, CCPG serves over 26 millions customers all over the country, covering high-rise buildings, villas, serviced apartments, office buildings, shopping malls, municipal public buildings, universities, hospitals, large communities etc.

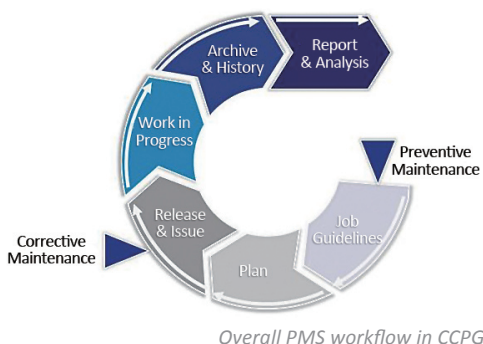
A visionary company in many respects, Changcheng Property Group took the lead in the Chinese property management market by being the first to achieve ISO9001, ISO14001 and OHSAS18001 certifications. The company gained further credibility by managing the Olympic Village during the 2008's Olympic Games in Beijing, winning praises as "the best Olympic Village for 40 years" by IOC's President Mr. Jacques Rogge.

Experiencing fast growth at around 20% per year, CCPG is continuously striving to enhance service levels in order to reinforce its position in a very competitive market. CCPG intends to achieve this goal by systematically promoting good corporate governance and further standardizing its business practices.

The project – building the standard platform

CCPG selected Siveco to design and deliver a unified, centralized Property Management System (PMS) that would serve as the platform to implement standards and continuously improve performance across the company's large, geographical-distributed, organization. Such a platform was considered critical to support growth, i.e. the setup of new branches and contracts according to best practice. The PMS was to cover both soft and hard FM services, namely technical services, cleaning, landscaping and security. The project was launched in August 2009.

In the initial phase of project, the Siveco team was dispatched to Shenzhen to review CCPG's already very sophisticated best practice (documented in comprehensive manuals and forms) and incorporating it into a web portal based on Coswin's central database, thus forming the "Core Model" for future roll-out to all sites.



The Core Model covers all aspects of property operations, with the following processes defined across all disciplines (technical, cleaning, landscaping, security):

Main processes:

- Unplanned work
- Preventive work
- Energy consumption records
- Daily shift records
- Etc.

Supervisory processes:

- Professional inspection
- Quality inspection
- Internal audit
- Decision support
- Etc.

Support processes:

- Suppliers management
- Stock management
- Employees management
- Etc.

Deployment processes (for new sites):

- Data collection (templates and processes)
- Training plan
- Coaching and follow-up
- Etc.



The Core Model also defines PMS' highly-graphical user interfaces, based on maps and processes:

The Core Model was then implemented in Shenzhen region for a first large-scale testing with users in 20 different sites. Implementation consists in collecting all relevant facilities and technical data for the site managed, then training and coaching the staff in the daily utilization of the system. Regular follow-up

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Intelligent Buildings for Intelligent Owners: the necessary convergence of control and management systems by PcVue & Siveco

This article is a joint contribution by PcVue China and Siveco.

The history of a partnership

Although the definition of an “intelligent building” varies, its main characteristic remains the use of advanced technologies to control and manage the facilities. The Building Management System is the core of the intelligent building, ensuring integrated management of all the technological functions of a building or complex, including physical security and access control, safety, heating, ventilation and air conditioning (HVAC), fire detection and suppression, lighting, intelligent elevators, systems failure detection and reporting.

Founded in 1981, PcVue (www.pcvue.com.cn) is at the forefront of HMI/SCADA software development in Europe with its PcVue Solutions. With a direct international presence in the USA, Europe and Asia, PcVue primarily operates through a network of distributors and maintains OEM agreements with Jumo, Veolia Water, Quantum Automation, Schneider Electric and Yokogawa that allow these companies to ship versions of the PcVue Solutions under their own brands. To date, over 38,000 licenses have been installed worldwide.

PcVue's cooperation with Siveco dates back from the mid-90s when both companies took part in a project to integrate supervision and maintenance management system for Singapore MRT (the City-State's metro). Similar projects in buildings, infrastructure and industrial facilities were later implemented by the two companies in Europe, including most of Paris' La Defense business district, R&D facilities such as those of automaker Renault, prestigious buildings like the Louvre Museum or the Eiffel Tower, international airports all over the world etc.

In the early 2000s, PcVue and Siveco have independently established strong customer bases in China and the region: PcVue Solutions for BMS run some of China's most prestigious buildings such as the CCTV Towers in Beijing and Guangzhou, the Taipei 101 tower; Taipei Metro stations also operate under PcVue's control, while the system was also installed under OEM brands in countless other properties (Shanghai Expo's Oil Pavilion, Suzhou Marriott Hotel, Guangzhou International Sports and Performing Arts Center, Shanghai Metro stations air cleaning system, etc.). Siveco, on the other hand, has delivered maintenance management systems and consulting services for property owners such as Auchan, Beijing Oriental Plaza, Ikea, the French Embassy, State Grid, Changcheng Property Group as well as major multi-site industrial facility owners all over the country; Singapore MRT remains one of the largest Siveco references in the region.

Today PcVue and Siveco are jointly promoting their solutions in China either directly to building owners or through PcVue system integrators. A joint technical support team was setup in Shanghai in 2007, aimed at training and assisting system integrators with the necessary know-how and technical tools.

The Building Management System

Thanks to a strong government push in the last few years, most facilities built in China nowadays incorporate technologies to support sustainable development and energy savings initiatives: Building Management Systems (BMS) or Building Automation Systems (BAS) are almost always installed.

Energy efficiency is often at the top of the agenda, as it represents a major cost for the facility, but also because it is clearly identifiable (utility bills) whereas other indirect costs or losses may prove elusive for most owners or operators.

No single supplier is able to provide a total “energy efficiency” solution, hence the importance of system integrators to assemble the various pieces of technology:

- The SCADA software to retrieve all the information at the source (sensors).
- Intelligent equipment with the ability to send the data required.
- Calculation tools to compute the costs from measures (liters, kWh, etc.) and consumption values (water, electricity, etc.).
- Reporting tools to display the resulting information to operation staff and decision makers.
- Analysis algorithms allowing operators to adjust the process and to apply, either manually or automatically, correction to decrease costs.

PcVue provides most of the software pieces and works along system integrators to support the total solution:

- Native management for equipment of such BMS brands and standards as BACnet®, OPC®, LonWorks® and Modbus®
- Tool for automatic generation of mimics (Smart Generator) from CAD files
- User-friendly Web management for scheduling
- Centralized user rights management for the operators (Active Directory)
- Powerful alarm management system (filters, masking, delays etc.) for faster and more efficient acknowledgement
- Reporting to enable fast optimization of power consumption
- Audio alarm notification system, Mobile, Email, SMS etc.
- Interface with CMMS/CAFM/FMS (maintenance system), which further extend the BMS scope to FM technicians through

the use of mobile solutions and to occupants, through Siveco's web portal (for an example of a complete FM solution, see the CCPG case study on page 5).

For more information on the integration possibilities offered by the PcVue-Siveco platform, please refer to this previous newsletter article: <http://tinyurl.com/tipsmayEN>



Examples of PcVue HMI

While the technology is constantly evolving, the hardware or control part of intelligent buildings is the best understood by owners and vendors alike. More often overlooked is the "soft" part of the intelligent building, both in the sense of computer software and management, i.e. what people, instead of machines, do: the Intelligent Owner.

This is where the PcVue-Siveco partnership comes into play and delivers most of its value.

The example of energy efficiency

As stated above, energy efficiency is often the primary concern. In the average commercial building, HVAC systems represent around 40% of the total energy consumption, making those systems the obvious candidates for energy savings efforts.

Design issues are an important contributor to energy inefficiencies: most HVAC systems are oversized in China, leading to higher electricity consumptions and operation issues. This can only be addressed by working with the design institute earlier on in the project or for retrofits.

For buildings already in operation, filters are the component with the most impact on the electricity bill. Often seen as a commodity, filters in fact control a major part of the energy cost in a HVAC system: the more resistance to the air flow, the more energy consumed. Facility managers should select filters based on their energy cost (by far the largest component in their Life Cycle Cost) which can easily be calculated, lower pressure drop being the main technical criteria to look for.

Experience shows that at least a 10% reduction in HVAC energy consumption can be obtained quickly through better maintenance – without any retrofit. Maintenance actions include regular cleaning of filters (delaying cleaning can have enormous impact on energy consumption and experience shows a lot of problems in this area) as well as coils and seasonal tuning of the systems (before summer and winter).

Operational issues include a general tendency to disconnect

controls when problems occur, e.g. switching the HVAC on and off instead of adjusting temperature controls, faulty controls simply turned off instead of repaired. More often than not, such actions are caused by the building technicians being overwhelmed by the technical complexity of the installation.

Indeed, too much technology brings its own maintenance problems, usually more complex ones than with traditional systems: the example of faulty sensors in highly automated facilities come to mind, which can prove to be a show-stopper due to the technicians not knowing what to do, the high cost of replacement by specialists from the supplier, often resulting in a decision not to use the BMS the way it was designed to be.

The BMS remains an extremely useful tool to manage energy consumption, by better controlling the system based on actual usage requirements and by detecting inefficiencies, for the correction of which human intervention will always be necessary (e.g. the BMS may detect duct leaks or dirty filters after a while, but technicians will have to be dispatched to fix the problems). It is critical for the facility owner to understand what the BMS cannot do. Unfortunately, there is a clear tendency to perceive the BMS as a way to "replace" the people, often by relying on vendors and external supervision team (i.e. to instruct on when to fix a problem or to call contractors directly instead of letting site technical team do their work). Instead of improving the know-how of facility management teams, it takes responsibilities away from them and increases vendors' dependency, which usually proves to be a bad idea. This "dumbing down" approach is obviously in total contradiction with our "Intelligent Owner" model.

Conclusion – where actions can be taken

It is in the area of energy efficiency that the PcVue-Siveco partnership shows all its value.

First of all, the overall design of the solution should take maintenance into account, mostly to avoid over-automation which is the natural tendency of both vendors (quite obviously) and owners (the motivating aspect of high technology, its perceived stability vs. the unpredictability of people).

The integration of the BMS with the maintenance system is a good way to ensure that automation makes sense from a maintenance point of view, as it forces the parties involved to think about the usage of the system, e.g. what is the relation between regular preventive maintenance (filter changes etc.) and "predictive maintenance" (often used as a fancy name for "alarm handling" which is not exactly predictive), what is the relation between the control team, the help desk and the occupants of the building, etc.

In the execution of the project, PcVue provides the BMS platform and all related technical support for the system integrator, while Siveco holds a dual role both as maintenance platform supplier and maintenance engineering specialist: Siveco can advise on all aspects of the project from a maintenance point-

8 Siveco partner

of-view, such as dimensioning of the HVAC, filter selection based on life-cycle energy cost, definition of preventive maintenance plans, etc. While those aspects are most likely not in the scope of the BMS project, Siveco's keen eye on maintainability and reliability issues adds tremendous value both in the design and long-term operation of the BMS.

Finally, both partners can assist in the optimization of the system over time, typically to add more controls in some specific area or process, based on cost/benefit analysis performed in the joint BMS/maintenance system (our usual recommendation is not to over-automate at first, but instead make sure the system can easily be expanded). For large property owners, such analysis will also provide valuable input for the design of new buildings.

In conclusion, the joint PcVue-Siveco approach enables the owner to make better decisions to improve its business, hence the term Intelligent Owner.

A note to system integrators

As most BMS projects are conducted through third-party

system integrators, PcVue and Siveco pay special attention to bringing a unique, combined, value-added, which translates into measurable ROI for the building owner (the end-client) and into competitive advantage for integrators, allowing them to move up the value chain towards more "intelligent" solutions encompassing building supervision and management.

PcVue and Siveco Solutions are designed to be easily implemented by integrators with the least possible engineering time, thus freeing up manpower for other activities. Knowledge transfer is ensured through training and project support, while specific expertise can be brought in on a need basis.

For more information on PcVue:

Website: www.pcvue.com.cn

Email: China@pcvue.com.cn

Phone: +86 21 5240 0456

Or go through your usual Siveco contact.

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audits are provided to continuously enhance the utilization of the PMS. This phase of the project was completed by the beginning of 2010.

Six months later

After successful completion of the pilot, the Siveco China team has helped CCPG roll-out the PMS to all the sites in Shenzhen region: the number of users connecting to the PMS portal is already over 150. The CCPG project team has been trained to further deploy the PMS to its other regions, a process which is now in full swing.

At the same time, the implementation of the eHand mobile solution is under preparation at one of the Shenzhen sites, in order for CCPG to assess the benefits of this approach for Facility Management (inspections, meters reading). Another site will then be selected to integrate the central PMS with a site-level Building Management System.

Chen Yaozhong, President of Changcheng Property Group, said:

"First of all, it is our pleasure to cooperate with Siveco, the largest maintenance consultancy in China, during the past six months. The whole program was very well-organized and structured. It was very flexible, yet strictly followed in terms of the length of the project. In addition, the Siveco China team was very professional, with responsibility in mind. More importantly, Siveco's way of working matches CCPG's, with clear management guidelines reflecting a results-driven

approach."

"From a professional point of view, the PMS established by Siveco is invaluable: the whole system, not only better integrates our C-level property management theory in terms of Standardization, Professionalization, and Empowerment, but it also helps our facility managers optimize operations and reduce costs on site."

"We strongly believe that the PMS will help CCPG solve some of the problems within our old internal operational system, by allowing us to better manage data across the organization, in a practical way, making all key performance indicators and know-how available via the Web."

"Information technology has become the dominant field in today's science and technology development, also leading to further development and transformation within the property management service industry. CCPG hopes that synergetic IT systems will further enhance the satisfaction of our customers and improve the welfare of the community".

Further comments from President Chen about the project and CCPG's philosophy in general can be found in Chinese on his corporate blog:

<http://tinyurl.com/blogchenyaozhong1>

(especially the two articles:

<http://tinyurl.com/blogchenyaozhong54>

<http://tinyurl.com/blogchenyaozhong55>)

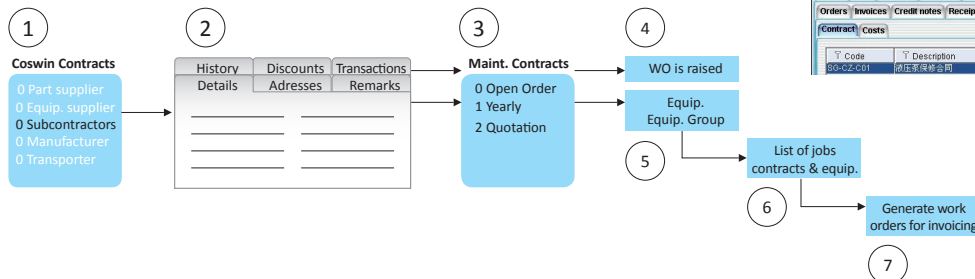
Contract management, quick benefits from underutilized COSWIN functionalities

Responses to our online customers' surveys have shown a strong interest in practical articles related to the utilization of our CMMS COSWIN. The present article is the first in a series dedicated to lesser-known COSWIN functionalities, which can easily be configured by customers' themselves to bring immediate benefits.

The standard COSWIN system allows comprehensive recording, management and follow up of all subcontracted activities, from simple warranty contracts (prompting users if equipment is still under warranty) to complex service-level agreements. Obviously of major relevance to service suppliers (Changcheng Property Group, featured in this month's case study, makes extensive use of contracts), it is however underutilized by facility owners. This article will highlight simple ways to start using contracts.

Principles of contract management in COSWIN

Contracts can be made for equipment or equipment groups. Jobs can then be created and assigned to equipments and therefore governed by the contract. All the costs of jobs under a contract are monitored and accumulated to totals for pre-defined cost periods. Work orders completed under contract can be invoiced.



- (1) Subcontractors are registered in the COSWIN stock module along with other classes of suppliers.
- (2) There are several screens of optional information to add to contracts.
- (3) The type of contract must be defined, several types exist.
- (4) The Open Order contract allows for services to be ordered as and when needed.
- (5) For Yearly Contracts the cost of work performed on equipment or groups is accumulated.
- (6) Jobs can be either predefined or created as and when needed.
- (7) Work orders (or complete jobs) are accumulated and can be invoiced or reconciled against invoices for work performed by a contractor. The COSWIN purchase module handles all invoicing.

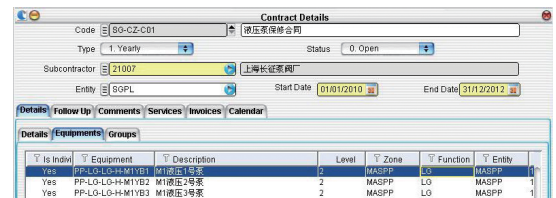
Simple utilization of contracts

As often with information systems, the simplest utilization brings the most benefits. Usability is critical, as a consistent use of the system is necessary to build up reliable data and to produce meaningful analysis. Usability is linked to simplicity and relevance to users' daily business. Contract management is no exception. Practical ways to use COSWIN in this area include:

Management of warranties and other ongoing service agreements

Is a piece of equipment still under warranty? Is part of the plant, group of equipment or specific machine currently covered by a contract? What are the contracts validity dates, suppliers, contact persons and other details?

A library of contracts containing such basic information can easily be built up in COSWIN: a database of service suppliers, contracts (open purchase order or annual contracts), linked to assets. The actual contract can be appended in electronic format or by reference to a paper contract number. If such data already exist, Siveco can help upload it directly into COSWIN using the Clic-Clac data migration engine.



Service contracts linked to a facility



Contracts with a specific supplier

Optionally, list of contract items (parts and services, i.e. jobs) can be created, contracts can be linked to work orders and costs can be managed... In fact, all aspects of the contracts can be handled in

COSWIN, which however adds complexity to the process.

The benefits of having such a simple up-to-date library of contracts linked to assets are immediate: by simple configuration of the email plugin, COSWIN sends automatic reminders before contracts expire (to avoid realizing a machine is out of warranty only after a breakdown happens) and users are automatically prompted when raising a work orders on an asset with a valid contract. Experience shows that existing contracts are often overlooked, resulting in additional costs. Furthermore, users can very quickly find out the details of the agreement, contact details, etc. considerably reducing the time spent talking to people in charge of purchasing and documentation. Finally, simple analysis of suppliers' performance can be performed, running standard reports against all equipments under contract with a chosen supplier.

Management of subcontracted resources

All the standard resource management features of COSWIN can

be used for outside resources. This includes the allocation of resources (employees, facilities) to work orders and the entire planning and scheduling process. Such resources are simply identified as external, to avoid double accounting (all their costs are already covered by contracts). As most customers do not actually managed resources cost in COSWIN (apart from purchased items), this anyway doesn't have much impact on the system.

The benefits are obvious, for example when planning for a project, such as a major renovation job where most of the actual manpower will be subcontracted: the first resource estimates can be done in COSWIN and then used as a basis for supplier's selection. The execution, by the contractor, can afterwards be managed in COSWIN.

Better communication with subcontractors

Most companies cannot expect their subcontractors to use COSWIN or even any advanced CMMS. Instead, COSWIN provides simple yet powerful solutions to enhance communication with external parties and ensure smooth interaction. Although not directly related to the contract management functionality, these are significant tools to manage contractors in COSWIN.

Maintenance plans can always be output in Ms Project format (or Primavera). Keep in mind that, unlike other CMMS where Ms Project is used as a planning tool, COSWIN includes its own planning engine, designed for maintenance planning (as opposed to project planning): the Ms Project interface is meant to be primarily a communication tool, as most contractors are able to read .mpp files. The process is as follows: a planned outage (for example) is prepared by the facility owner in COSWIN. This is typically a high-level plan based on the owner's requirements (scope of work, duration, in-house resources and facilities available). The plan is then exported to Ms Project and emailed to the various contractors involved. Each of them can study, complete and modify their part of the project. They later email the updated files to the owner, who imports them back into COSWIN. This ensures than plans remain always up-to-date between the various players involved.

When managing subcontractors it is also common to make use of COSWIN automated email generation and other alerts to ensure efficient communication of tasks and information to external organisations that are not COSWIN users. For example, HVAC job requests are automatically re-routed by email to the HVAC contractor. Performance reports can also be emailed at the end of the month without human intervention (using COSWIN Report). The Email Plug-in can be used to create such notifications (content and conditions). Some customers use automatic faxing instead of email, when dealing with less advanced suppliers.

More advanced use of contract management

COSWIN provides more advanced functionality that goes beyond the scope of this article, focused on what customers can easily setup by themselves. Large facility owners may choose to have contractors accessing the central COSWIN platform directly via

a specially designed web portal (in fact the normal COSWIN with a dedicated user group, diagrams, simplified screens, etc.). Each contractor's access is restricted to data related to their scope of work, e.g. their list of work orders, contracts and equipment managed.

For example, contractors may receive new work orders (with warning by email if required), acknowledge receipt, open and update them, confirm date and resources, provide quotation if necessary, attach documents such as drawings and later report work done and start the invoicing process. For large owners, the benefits in terms of administration and communication are enormous. Many large multinational Siveco clients use COSWIN in this way.

Although users familiar with COSWIN may be able to setup such portals themselves, it is recommended to involve more experienced Siveco engineers to avoid common pitfalls.

Conclusion – get more from COSWIN, now

We hope this article may have opened your eyes on a possible utilization of COSWIN. You can easily start to create a database of contracts today, starting with warranty periods or perhaps the most important service agreements. The email plug-in can be configured to automatically let users know when contracts should be renewed and to inform contractors when events occur within their scope of supply. With an eye on implementing more complex functionality later, you can already obtain impressive results with such simple additions.

Get to know the Siveco people – the pretty face behind this newsletter

This month we are pleased to introduce the driving force behind the "Maintenance in China" newsletter, our lovely marketing manager Fiona Yan, pictured here in front of the excellent Luxembourg Pavilion at the Shanghai World Expo.

Fiona joined our company in 2008 and initially focused on lead generation. She initiated our ambitious newsletter project at the end of last year, primarily as a means to keep regular contract with our customer base. Today she is heading our marketing team, a responsibility that also includes the development of our Value Added Partner Program across Asia.



Siveco China provides maintenance audits for World Expo pavilions

July 5, 2010

As part of an academic partnership with the Shanghai Sino-European University of Technology (UTseuS), Siveco is conducting maintenance audits of selected pavilions at the World Expo 2010. The first audit is currently ongoing at the Spanish pavilion.

The audits take into account the specificities of the Expo, namely the limited lifetime of most buildings (6 months), the long opening hours (7 days a week, 10-12 hours a day) and the stringent requirements in terms of safety. Furthermore, the

quality of the pavilions reflects the image of the nations, regions, cities or institutions they represent.

Benefits of the maintenance audits include:

- A third-party assessment of the pavilions' maintenance situation, independent from construction companies, equipment suppliers or FM service providers.



- Risk reduction, in terms of the impact of technical failures on public safety, operation, cost and image.
- Optimization of resources.

The audit also provide useful input for the second life of those pavilions set to remain, in one way or another, after the Expo period.

5th Annual Process Industry Engineering & Maintenance Congress(September 14-15)

We will present a paper on "Leveraging technological tools to deliver sustainable maintenance improvement in China". We will also hold a booth at the event, showcasing our solutions and experience. The congress is a major annual event for maintenance managers in the process industry, with a strong focus on chemicals.

www.pecongress.com

Workplace & FM Asia Summit 2010(September 9-10)

Our China General Manager Bruno Lhopiteau will speak on the topic of "Maintenance improvement in China: lessons from 12 years in the field" at the Workplace & FM Asia Summit 2010 to be held in Shanghai on September 9 and 10. The summit is supported by IFMA, CoreNet & RICS and will host 300+ delegates from the Asian FM industry.

www.facilityone.cn/events/FM2010

For more latest news, see <http://tinyurl.com/siveconewsEN>

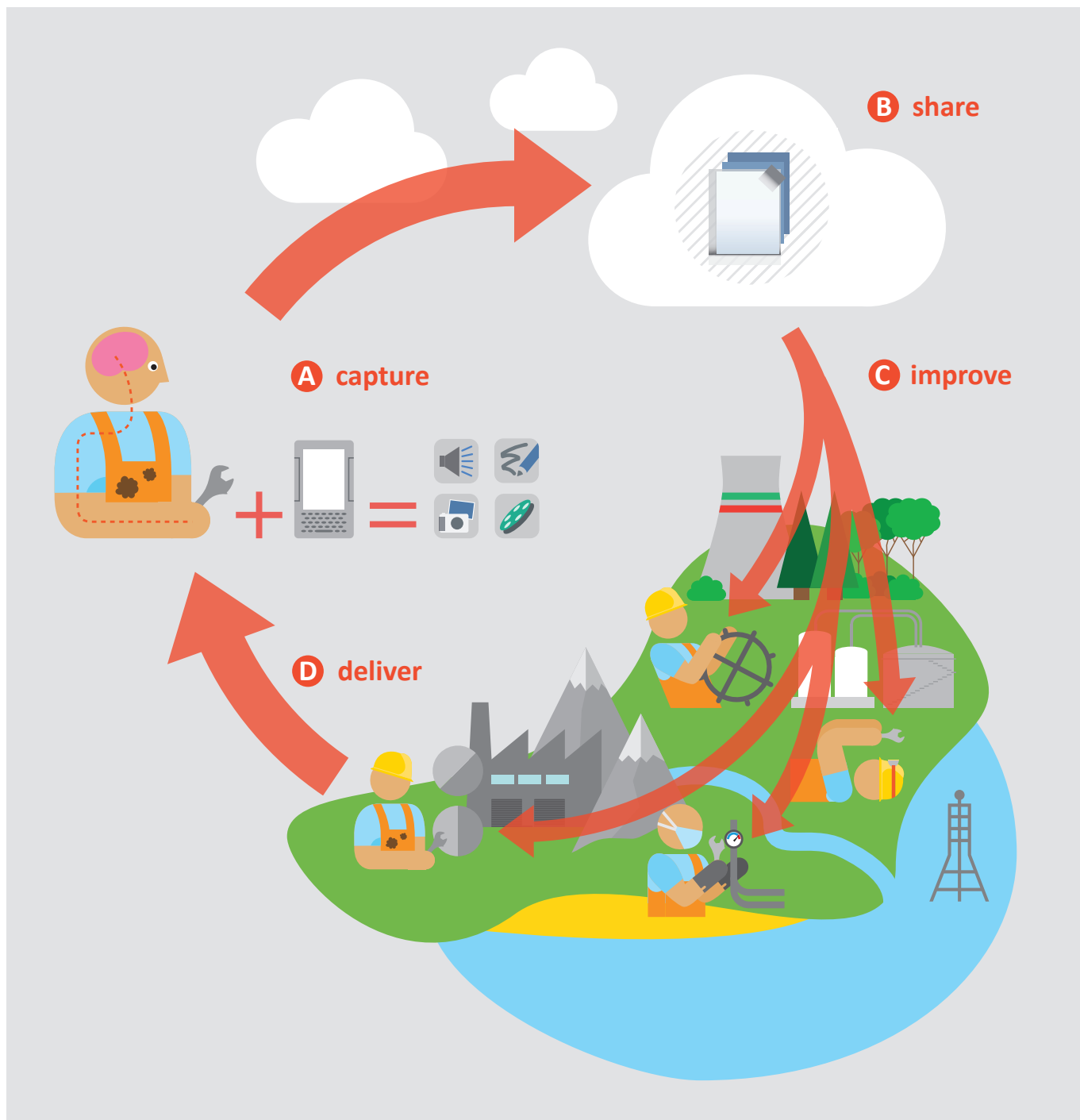


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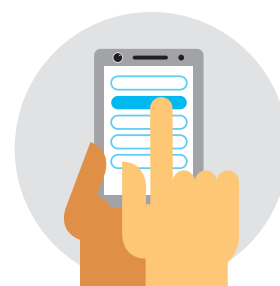
Read or subscribe to our monthly newsletter

<http://www.sivecochina.com/en/maintenance-in-china/>

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the lean technician



Siveco provides a suite of mobile solutions offering support for the “worker of tomorrow”. Running on Tablet PC or Smartphone, the solution works with any back-office maintenance management system (Coswin, Maximo, SAP, Datastream etc.).

Contact us for more.

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