Fleet Forum VTS/FMS Implementation Guide

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Introduction

It is often thought that introducing a Vehicle tracking system (VTS) and/or a Fleet Management System (FMS) will solve a wide range of problems concerning the management and control of vehicle fleets. However, it must be recognised that such systems are merely tools and if the tools are not chosen, designed, and employed correctly, little benefit will be achieved.

Successful implementation of these technological tools requires significant commitment from the organisation to ensure these tools are used correctly. Therefore, the decision to implement new technology should not be taken lightly. It should be approached with a clear goal in mind and the ability to see how technology can help to achieve that goal.

This guide provides an overview of the critical success factors for a system implementation project. The information contained is based on discussions with a wide range of organisations which have undertaken such projects – some with success and some with failure. In addition, various suppliers have been consulted for their advice. While following this guide is not a guarantee for success, it highlights many of the key challenges and suggests how to avoid many of the pitfalls that system acquisition and implementation face.

As technology improves the quality, capacity, and usability of VTS and FMS systems grows. The challenge presented to organisations is the variability of the human factors and complexity of the relationships between the system and the organisational environment.

Needs: Successful VTS/FMS implementation projects should have clearly defined goals. For example, a goal to improve road safety performance could lead to the use of VTS to monitor high-risk driving, for example over-speeding, night driving and/or overall driver behaviour. An organisation wanting to have greater visibility of vehicle operating costs may use an FMS to capture the required data country level.

Without a clearly defined and specific problem statement the attraction of a wide range of potential benefits of the system may result in unrealistic expectations and lack of project focus and loss of confidence in the solution.

A general goal or many vague or non-specific goals will often result in failure to achieve the expected benefits.

Hardware & Software: There is a wide range of both technology and providers. With a clear definition of current and future needs, the selection of the most cost-effective infrastructure is more likely. It is important that the expectations of the system are aligned between the system user and the system provider.

For example, if a system is required exclusively for fleet performance data collection, real-time and guaranteed constant connection to the system is not required and data transmission over the GSM network would be best. However, if the system is also for security purposes and geo-fencing and 'panic' alerts are required then a more expensive satellite option may be required. Use of hybrid systems, combining use of GSM and satellite systems, may be a preferred option in certain operational contexts.

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People: From drivers to senior managers there should be an understanding of the purpose of the system and the resources at hand to operate it.   An appropriate change management and staff training plan should be developed to ensure acceptance and competence.

Managing information: The organisation must introduce effective policies and procedures to act on the large amount of data that the VTS will provide. The data must be filtered and analysed to provide the necessary information to address meaningful and focused alerts and reports.   Effective accountability processes are required to ensure that all reports and alerts are monitored and acted on.

Not only that organisations have to act on the amount of data by making resources available, but also that they must act on findings and need to be prepared to do that. For example: if an organisation purchases a VTS and the data shows speeding / idling / night driving etc than the organisation should be willing to take unpopular measures (reprimanding, warning, terminating contracts etc.)

When an organisation acquires a given system it makes a significant commitment. The costs associated with implementing a VTS are high both in terms of cash outlay and investment in staff time. If the organisation determines later the system is unsatisfactory or does not sufficiently meet its requirements the options for changing system are very limited and always disruptive and expensive. It therefore critical that sufficient research and internal analysis of organisational readiness are conducted, and an effective project implementation strategy is put in place.

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Critical Success Factors

When considering a VTS or FMS implementation project the organisation needs to ask itself the following questions to ensure the various aspects required for successful implementation have been considered and the organisation is fully prepared to undertake the project.

Problem Statement

- Has the organisation identified and clearly defined the issue(s) it wants to address by implementing a vehicle tracking system?

Some agencies have been tempted to acquire systems based on the perceived general benefits rather than to address a specific challenge or issue. Acquiring a system to achieve general or multiple benefits is highly risky as the objectives and values of the system can become unclear. While systems can perform an enormously wide range of functions it is recommended that the system is acquired, certainly initially, to perform a certain or small group of identified tasks.

A common example of the lack of clarity of intended use of systems is the debate between VTS being a fleet management tool, a security tool or both. As a security tool, it is almost always a requirement to have constant contact with the vehicles, which implies more expensive satellite communication is required. In addition, detailed and complex protocols involving a large group of stakeholders needs to be established to follow once an emergency alert or other security related incident occurs. If a system is used entirely for fleet management purposes real-time data transmission is not necessary and the user requirements more straightforward.

A clearly defined problem statement also makes it easier and more transparent to measure success of any systems implementation project.

Management Commitment

- Is the project ownership at sufficiently senior level within the organisation also within the country operations?

Successful system implementation requires senior management support and ownership at a suitably high level with the organisation. Management support is easier to secure if there is a clear objective which is beneficial to the organisation, for example cost reduction or improvement of road safety performance.

Resources, for example additional funding or staff positions, need to be made available and organisational policies and procedures need to be approved for a successful implementation. These are difficult to achieve without the commitment of senior management.

- Has sufficient support been secured at all in the organisation levels been established at both the receiving end (users) and the project roll-out team?

It is important that the project be given sufficient support both at HQ to drive the project but also at CO or user level to implement the system and integrate it into day-to-day business. Such support may include 'super-users' at HQ level able to support and guide users in the field, IT support and 'challenge teams' who support the roll out and further training. The role of the 'challenge team' is to provide ideas, react to different implementation scenarios before they happen and have a say in the outcomes at the start of and throughout the implementation.

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- Is there an appropriately resourced project implementation plan?

The cost of acquiring and installing the hardware and the data transmission are often significant but a larger amount of funding should also be budgeted and made available for the ongoing support, training, administration, and development of the system. In many cases the system is not used to its full potential because insufficient resources are made available for the ongoing operation of the system.

Definition of Success

- On what basis will the project performance be measured?

In any complex project which involves introducing new technology and organisational change management appropriate project performance indicators must be identified and monitored. These may include financial – budget vs actual, speed of roll out – number of units/number of countries, etc.

In the case of implementing VTS to improve road safety performance the number of over-speeding events or other alerts can be used as a simple measurement of success. For an FMS, the timeliness, accuracy, and completeness of data recording by field offices could be a success indicator.

- On what basis will the effectiveness of the system be measured?

The effectiveness of the system must be gauged against the specific problems or challenges documented in the initial problem statement. For example, if the system is expected to increase road safety, the number of over-speeding and harsh braking events recorded in the system could be one indicator.

- On what basis will the performance of the system provider be measured?

A Service Level Agreement should be established with the service provider at the contract negotiation stage. This SLA needs to specify the expected performance of the vendor.

Examples for an VTS might include the number of non-reporting tracking units, or the speed at which faulty equipment is repaired or replaced.

- On what basis will the performance of individual Country Office be measured?

Country Offices (COs) will be expected to manage update the system in use within their area and often additional manually input data may be required. The performance of the CO can be measured on the number of non-functioning units, the speed at which they update the administration of the platform (entering new vehicles, new drivers, etc.) and the speed, accuracy, and completeness of manually entered data.

Roles and Responsibilities

- Have the roles, responsibilities, and accountabilities of each of the project stakeholders been identified, communicated, and documented?

Project management, contract management, system administration, day-to-day operation, reacting to alerts and reports, system development and training are all critical for system success. These must be defined and monitored. When identifying the stakeholders, the organisation should also think about less obvious stakeholders such as Human Resources (specifically when it comes to consequence management), Legal Affairs (to guarantee that the data is used according to data protection laws), etc.

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Benefits and ROI

- Are the expected benefits of the system realistic and achievable?

Many system implementations have failed due to the over ambitious and unrealistic user expectations of the system and the benefits it will deliver. With clear definition of the problem statement at the beginning of the project it is easier to define and achieve appropriate performance targets.

- Is there an established method to determine the return on investment from the project?

VTS vendors say that commercial customer always demands a projection of the financial return on investments in systems. In the aid and development sector there is a far less developed culture of measuring and monitoring ROI and it may be difficult to apply realistic values to some of the benefits, for example, if the cost of a vehicle crash cannot be quantified it may be a challenge to assess the cost reduction achieved through fewer crashes.

It is strongly recommended that consideration be given to defining ROI at the outset of the project. Elements that could be considered when defining the ROI:

For the FMS:
o   Better preventive and predictive maintenance
o   Optimize vehicle usage and fleet size
o   Increase access to information
o   Enhanced parts and inventory management
For the VTS:
o   Fuel costs and savings (from insight in route planning and idling)
o   Payroll costs and savings (from insight in working hours)

Risks & Mitigation

- Have the project risks been comprehensively assessed, and mitigation strategies determined?

VTS projects, almost by definition, are complex, expensive, require significant change management and involve multiple stakeholders within an organisation. Consequently, these project face multiple risks which need to be carefully assessed and mitigation strategies developed at the outs et of the project and monitored while the project.

Risks may include the system is too complex and requires too much time from staff, insufficient resources are made available for the roll out, negative user staff perception, lack of senior management support to drive the adoption of the system. Based on the experience of a range of organisations, many of the project risks are identified and mitigation suggested in the different sections of this guide.

Alignment with Existing Business Processes

- Is the VTS planned to integrate with any other systems within the organisation (e.g., FMS, ERP)?

Integrating VTS with another IT system can be complex and challenging. The decision on whether to integrate will be taken in conjunction with those responsible for IT within the organisation according to the overall IT strategy.

- If yes, is the integration part of the project plan?

If integration is part of the overall strategy it is critical that the significant addition recourses required be made available and fully built into the overall project plan.

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Accountability

- Do those accountable for the project have sufficient authority and responsibility to effectively deliver the project?

System implementation projects are complex. Additional complexity is added when the number of stakeholders increases, for example when the system is being used for fleet management and security purposes, or when the VTS is being integrated with other internal systems. It is important that accountability for all aspects of the project is clearly defined as well as for the overall delivery of the project.

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Communication & Change Management

- Are the purpose and expected benefits of the system clearly articulated and communicated?

It is important for all interested parties within the organisation have a clear understanding of the benefits of the system. Different stakeholders may have different priorities and therefore perceived benefits. Each of the stakeholders must be aware of the benefits which will impact them.

Many vehicle users and particularly drivers, can consider the introduction of VTS as a means of 'spying' or control. In fact, VTS can be demonstrated as a tool which improves their safety and empowers the drivers with greater control. Positive reinforcement through recognition of good driving behaviour can have a more powerful impact in success than simply punishing bad driving behaviour.

Implementing a Fleet Management System requires staff to adapt new work approaches. For example, in some systems odometer readings can be keyed in by the drivers (using a mobile phone) instead of capturing the information on a log sheet. This will not only eliminate one data entry level (admin staff / dispatch does not have to key it in) but it will require frequent communication to the driver to explain the importance of this new task and monitoring that it is done.

- Is there a change management plan designed to engage and win the buy-in from all the stakeholders within the organisation?

An effective change management plan to support the implementation of VTS or FMS is critical for success. It is very often not perceived as an important part of the overall project plan and there are cases of implementation projects failing as a direct result of the change management implications not being fully understood or addressed.

A tried and tested change management methodology which could be used is the ADKAR model:

A: Awareness for the need (to change). This is related to the problem statement. Why does the organisation need systems? What will be solved when the systems are in place? What does the organisation risk to lose if it continues without systems?

D: Desire to be part of the change. Typical activities in this phase are communicate the benefits systems, identify risks related to the system implementation, building momentum and address fears of staff.

K: Knowledge (training / information). Learn new technical skills, share information, and set reasonable targets.

A: Ability (know how to use the systems). Employ a suitable governance framework, start training the basics, allow staff to make mistakes, adjust processes that touch the system implementation.

R: Reinforcement (ensuring that the change sticks, avoiding that after the first weeks the systems are no longer used). Identify champions, learn from early mistakes, and share experiences.

- Is senior management support for the system demonstrated?

Successful VTS implementations all have senior management support as a common success factor. Clear and decisive management action based on outputs from the system will increase system acceptance and success. For example, the creation of new policy and procedures concerning the use of the systems requires management support.

- Will senior managers lead by example?

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There have been cases where senior managers in COs do not want VTS fitted to their own vehicles, applying privacy as a concern. It is important that all the organisations' vehicles are equipped to a uniform standard and organisational policy concerning the use of the system created requiring compliance.

- Has there been sufficient consultation with all internal stakeholders?

System implementation projects involve multiple stakeholders, each having a specific interest or role to play. All stakeholders should be identified, the importance of their role in the project understood and appropriate levels of discussions held. Different stakeholders may include:

  o The field, i.e., CO users and Heads of Office
  o IT, for technical support.
  o Security, in the case of VTS.
  o Human Resources
  o Legal (for data use and privacy laws)
  o Finance
  o Transport staff, driver, despatchers, fleet managers, as these functions be impacted most.

- Have the drivers been briefed and incentivised on the system?

Drivers often perceived VTS as a means of spying on their behaviour. However, if the system is well explained and the opportunities demonstrated drivers can be encouraged to embrace the system and feel they are being supported by it. A scheme of positive incentives, such as good driving behaviour recognition, can be far more effective in realising benefits from the system than focusing of penalising drivers for poor behaviour.

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Product Selection

- Has there been sufficient research into defining the most suitable hardware and software solution?

The decision on which hardware and software solution has far-reaching implications and required careful analysis. If it is determined later that the selection was not appropriate the cost of changing to another can be enormous.

- Did the specification for the procurement process accurately reflect the current and potential future requirements of the organisation?

Experience has demonstrated that many organisations over-specify their requirements which may result in an overly heavy or complex system which has so many different functionalities the primary needs for the system or lost or ignored.

- Was the evaluation of potential system performed by persons with sufficient technical knowledge and understanding of the desired purpose of the system?

VTS has multiple technical facets and technical evaluations of offered systems must be evaluated by persons with sufficient technical expertise. While this may seem obvious, there are numerous examples when technical evaluation has been done by committees of non-experts resulting in some bad choices being made. If the appropriate technical experts are not available within the organisation it is worth considering assistance from another organisation with the necessary experience and expertise.

- Does the selected system offer the most cost-efficient combination of hardware and data transmission?

Organisations are often drawn to over-specifying equipment on the basis that they can acquire more feature that they require. Again, this comes down to accurately determining the purpose of the system at the time of system selection and not coming up with an exaggerated 'nice-to-have' list.

- Do the reports and alerts (outputs) from the system accurately reflect the stated requirements?

Reports and alerts generated by the VTS should accurately reflect the requirements of the organisation. Many vendors have a range of standard reports and alerts and these should be compared with the organisation's actual requirements and specific reports be developed if required.

There is a tendency when adopting a new system to over-complicate the outputs from the system. It is important to ensure the most basic reports are in place and delivered accurately and in a timely manner. As the system becomes established and used, additional complexity can be developed gradually.

- Does the chosen system require additional development to meet the desired purpose?

It is recommended that the vendor provide a working system that meets the requirements of the organisation as standard features of the system. If additional organisational specific development is required appropriate resources must be allocated in the project plan. Development can be time consuming and costly.

- Were potential upgrades and migrations considered in early phases of the system selection?

Upgrades and migrations can require significant resources and, if required, should be factored into the project plan.

- Does the system provide possibilities for inter-operability with other solutions on the market (or it is a proprietary product)?

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This may not be a requirement, but it is worth understanding the possibilities and options before final system selection.

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Management Follow Up

- Can CO management accurately read and interpret reports and alerts from the system?

CO management must be able to read and interpret the VTS reports without additional information or support.

- Have CO management been trained and coached on the management action required in response to system generated reports and alerts?

Outputs from the system in the form of reports and alerts require management follow up or action if they are to be effective. CO management must be familiarised with the reports and the actions expected of them in response. The best implemented VTS projects can fail if the management follow up is not provided.

- Is there a project focal point in each CO?

A focal point for the VTS is required in each CO. The focal point is a designated role and is the first point of contact for all matters relating to VTS. The focal point does not necessarily have to hold system administrator rights; however, this is useful.

Installation and Local Support

- Does the system provider have a reliable hardware installation and activation protocol which is aligned with the organisations requirements?

Installation and activation are best performed by the service provider or agent prior to the shipping of the vehicle to the point of use. As this is not always possible, the vendor should be required to provide these services in multiple locations to an agreed and approved standard.

- Is the system provider able to provide local support in cases of equipment failure?

Due the widespread international distribution of vehicles in aid and development organisations' fleets it is important that plans for hardware installation, system activation and faulty finding and rectification can be carried out in situ. It is, therefore, important that the vendor has either a wide-ranging presence or network of certified agents to carry out these tasks.

Implementation

- Is the roll out plan realistic and achievable?

The rollout is a key phase of introducing a VTS project, the effectiveness of the roll-out will have a significant impact on the success of the project.

Roll out can be effected in several ways, which may range from the 'Big Bang' approach to progressively introduction over time and location. The Big Bang in some cases can be more effective as visible organisational change across the organisation can be supported with an awareness campaign. This can result in a step-change delivering impact from one point in time to another. However, the Big Bang needs a huge amount of preparation and planning. The progressive roll out is much more low-key and involves fewer risks, however, it may take a long time to fully roll out.

The nature of the roll out may be determined by the size and distribution of the fleet, the resources available and the practicality for any set up and installation.

- Has the workload impact on CO staff been assessed?

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Using a new VTS is usually an additional task for individuals with full-time jobs. The workload must be evaluated and determined if it can be done by existing staff capacity or whether additional staff or specific training may be required to use the system effectively.

- Will CO offices be able to easily access the level and support and guidance required to effectively implement the system?

This support can be provided centrally from within the organisation or by the service provider. Staff turnover and rotation should be factored into all training plans.

Training

- Is there an appropriate training strategy in place to ensure sufficient competence levels in the system users at all levels?

Training of staff in the use of the VTS at all user levels should be planned as a continuous activity. Staff turnover and rotation should be factored in to all training plans.

- Are sufficient resources available for the ongoing training and competence building of the staff?

The omission of a sufficient training budget, or cuts to the training budget as the project progresses should be avoided. VTS is a technically complex system delivering many outputs. If the system itself ore the outputs it produces are beyond the capacity of the users the project will fail.

Resources

- Are sufficient resources available for the ongoing maintenance and upgrades to the system?

Adoption of a VTS requires significant organisational investment in staff time and money. It is important to budget from the outset of the project, and that the operation of the system will require additional funding and resources on an ongoing basis to maintain the system and additional resources will be required to upgrade the system in the future.

Future Expansion of the System

- Are there future goals set once the first steps in the implementation have reached maturity?

The high rate of technological development and system evolution suggest that a system never remains static. It is important to project future needs and requirements to ensure that the system is as future proof as possible.

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