

Training for Success

Training Results by Design

The time and resources allocated to conducting and reviewing training are a significant investment for any organisation. In order to get the maximum return on investment, it is critical to ensure that training events are designed and planned with the required learning outcomes in mind, and that these outcomes can be validated easily.

This paper details the use of Calytrix's Inject Planner as a collaborative solution to ensure that training events are designed and managed with these outcomes in mind.



TRAINING DEVELOPMENT: INJECT PLANNER

Training Results by Design

Training exercises just don't happen; they require deep, thorough and meticulous planning. Calytrix Inject Planner provides you and your team a collaborative online solution for complex exercise planning and result management.

Overview:

The process of planning, developing and delivering collective training events (or exercises) requires a significant commitment of resources for any organisation. Not only does this process consume valuable time, but costs can also be measured in terms of physical resources, facilities and the opportunity costs which draw planners, facilitators and participants away from their day to day activities. In particular inter-agency events require careful planning as the training needs of a number of disparate organisations need to be balanced against the anticipated benefits that collective training events can offer. Coordinating the scarce time and resources across multiple groups or agencies can pose significant challenges in developing a coherent and focused exercise scenario which is not only challenging for the participants, but which also provides the framework against which training results can be validated and assessed.

This paper provides an overview of the exercise planning and assessment process and introduces Calytrix's Inject Planning Tool as a means of providing the common design thread and exercise assessment capability. Inject Planner will deliver a coherent outcome for collective training events in a manner that ensures a positive training outcome while delivering the maximum return on investment for an organization.

End State:

Utilizing *Calytrix Inject Planner*, training planners and developers have an affordable and intuitive means by which to collaboratively plan and execute collective training events within a coherent storyline, focused on desired learning outcomes. Organizations have the ability to rapidly validate training outcomes against desired objectives.

Constructing an Exercise:

Whether planning for a small team exercise or a large multi-agency event, exercise planners will typically follow a process which starts with stated objectives and seeks to build a coherent series of events designed to test participants against those objectives. While there are many steps in this process, they can be broken down into four broad areas of activity:

Objectives → Scenario → Events → Evaluation

Training Objectives

The typical exercise planning cycle begins by determining the prioritized tasks the participants will train against within available resources. In a military sense, these training objectives will typically be taken from an existing Mission Essential Task List (METL) and applied against the training or readiness outcomes dictated by current operations or certification / validation of a particular group at a point in its training cycle. Non-military organizations will also typically have a defined set of readiness objectives which a group, or groups, need to be validated or certified against.

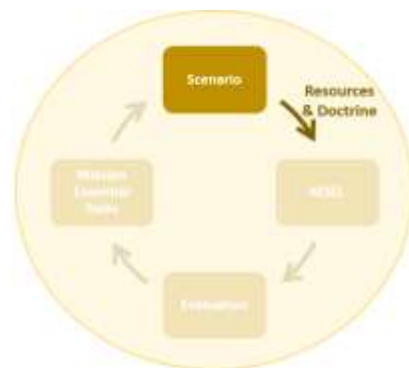


Mission Essential Tasks are often expressed in terms of the performance objective, their relationship to each other and the conditions and standards required to evaluate performance against. From an available list, specific Mission Essential Tasks are chosen which will form the basis of the overall training objectives for each exercise event.

Scenario

Exercise scenarios are used to portray the training objectives in the context of a real-world situation or likely operational response situation. Scenarios explore the various options for given situations and scope the training activities based on:

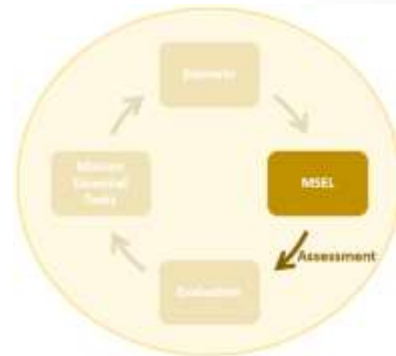
- Exercise resources available including personnel, funds, training assets and time;
- The nature of the training event (contingency planning, short-notice response planning or preparation for a planned operational activity), and
- The specific requirements of participating agencies.



Scenarios can originate as a few high level pages of information and evolve into very detailed events as exercise planning progresses.

Master Scenario Events List

The result of detailed scenario planning is often referred to as the Master Scenario Events List or MSEL. Collectively, the MSEL gives life to the desired scenario to provide a realistic, challenging, focused and measurable exercise scenario to participants. The individual events within a MSEL are often referred to as 'MSEL Injects' as they are events that are 'injected' into the exercise at a specified point. Larger exercises may contain hundreds or thousands of MSEL Injects and their detailed development can be a time consuming process.



A MSEL contains a chronological listing of the events and injects that drive exercise play, in effect creating the story-line. Each MSEL Inject reflects an incident or activity that will prompt participants to implement a policy, procedure or doctrine being tested.

The detail associated with each MSEL Inject will vary between organizations and from exercise to exercise. Typically each MSEL Inject record would contain, as a minimum, the following:

- The MSEL identifier (unique name or serial number),
- The designated time of occurrence,
- An event synopsis of the MSEL Inject,
- The intended agency, group or individual player for whom the MSEL Inject is intended,
- The expected action or player response after a MSEL Inject is delivered,
- The mechanism (or implementer) by which the MSEL Inject will be presented to the training audience (e.g. email, phone call, simulation event etc.), and
- Notes for controllers and evaluators to track actual events against those listed in the MSEL.

Name	Status	DTG	Description	Type	Location	Expected Action
0004: Determine Transportation Assets	Completed	2014-08-01 15:00	Determine transportation assets for EOC stand up and ongoing requirements.	Telephone	29.330N 158.000W	<ul style="list-style-type: none"> Callout of EOC personnel. Reports personnel status and deficiencies. Develop EOC staffing schedule for next 72 hours. Provide inventory of available buses and drivers and provide 72 hour staffing schedule. Determine bus routes affected Receive, coordinate, and post initial and follow-up reports (e.g., from dispatch, Incident Command System (ICS)/Unified Command System (UCS), hospital) about location and
0005: Patient Numbers	Injected	2014-08-01 14:00	Hospital ER reports patient numbers	Email	29.330N 158.000W	

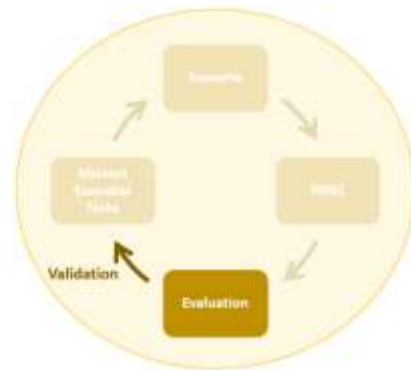
FIGURE 1: TYPICAL MSEL INJECT RECORDS

Importantly, a well-constructed and dynamically managed MSEL seeks to control the flow of an exercise. Dynamic management in particular allows Exercise Control (EXCON) and the MSEL Cell to adjust the pace of play ensuring a challenging, but not overwhelming, flow of challenges to

the training audience. Similarly, it also allows EXCON to ‘target’ specific groups within the training audience, either repeating previous injects, or stepping up the pace when it slows. Central to this process of adjusting the exercise pace and challenge level is the ability to rapidly gather feedback from a distributed group of observers and assessors in order to monitor the participants’ response to each event as it unfolds.

Evaluation and Validation

This paper has discussed the way in which the MSEL is developed to help organize events within the scenario to ensure that desired training objectives are addressed, tested and observed. It follows that a key component of any approach to managing exercise design must be able to complete the feedback (or assessment) loop by observing participant responses and evaluating these responses against training outcomes.



In making these evaluations, assessors and observers will draw on their knowledge of the doctrine or operating procedures relevant to the response required from the participants. They will also use supporting information contained within each MSEL Inject which describes the intent of the MSEL Inject and the expected response actions. They will also rely on the particular assessment criteria (conditions, standards and measures) associated with the training objective(s) relevant to that particular MSEL Inject.

A well planned and supported evaluation process provides a number of benefits to participants and their parent organization(s), specifically:

- Provides rapid feedback to participants on responses to events,
- Allows analysis of readiness of individuals and teams/groups for a given scenario;
- Supports the After Action Review (AAR) process,
- Validates the exercise philosophy and construct,
- Delivers a basis for review of Standard Operating Procedures (SOPs) and doctrine,
- Informs future exercise design and approach, and
- Identifies training gaps to inform ongoing training plans.

The planning and conduct of a rigorous evaluation process often takes a ‘back seat’ to the exercise development and actual conduct phases. However, evaluation and validation is the key mechanism by which participants and organizations can learn and grow through. In addition, an organization should be able to measure the return on investment for what is often a lengthy and expensive process. While longer term analysis of training results is an important process, there is also a risk that post activity analysis activities do not come in time to influence the conduct or flow of an exercise as it unfolds; without near real time feedback, valuable training opportunities can be lost.

The process detailed in this section can be summarized in the following diagram:

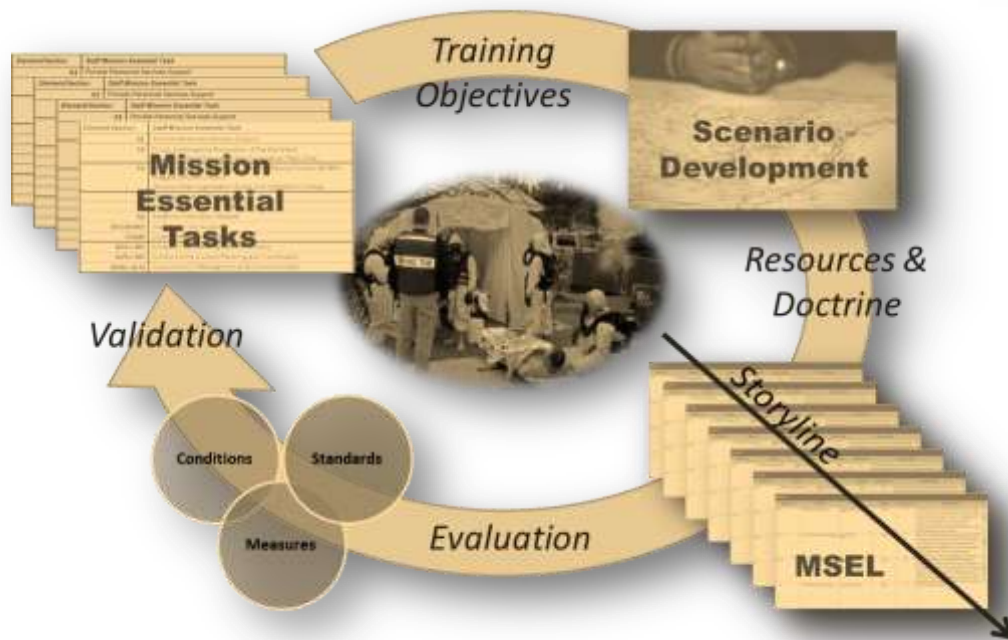


FIGURE 2: MSEL DEVELOPMENT PROCESS

MSEL Management

Key to managing the flow of MSEL development is understanding that while the process appears to be generally linear, in practice there are a number of iterations during and between each step as the overall exercise (not just the MSELs) is shaped and developed from conception to finalization. This requires a dynamic and flexible approach to the way that MSELs are conceived, developed, executed and ultimately validated through evaluation.

Typically, most organizations will manage the process of developing and executing MSELs through a series of face-to-face meetings as part of the broader exercise development or planning process. In many cases, the planning team attempt to capture their results in a spreadsheet which is kept updated by a lead MSEL Planner(s). While reasonably effective, this approach also has a number of limitations:

- The two dimensional construct (sheets containing columns, rows) of a spreadsheet doesn't lend itself easily to the numerous relationships that exist within the exercise construct, making the spreadsheets difficult and cumbersome to use,
- Does not easily facilitate real-time collaborative planning from distributed groups or individuals,
- Has inherent version control problems as planning is progressed,
- Has limited ability to attach and distribute supporting data such as assessor notes and attachments,

- Does not provide an integrated assessment mechanism for use by a distributed observer group,
- Does not facilitate real-time feedback from EXCON and observer staff during execution.

Alternatively, there are a number of Military or Government off the Shelf (GOTS) systems available which do meet the requirement for a centralized and collaborative planning tool. However, a number of these are not available to most organizations or can be overly expensive and complicated. Typically these sorts of systems have been designed with a particular audience in mind and are very limited in their ability to be re-scaled or adapted to suit the needs of smaller or non-military groups, but perhaps most importantly, many will not facilitate the critical evaluation and validation function.

Calytrix Inject Planner

With some of these limitations in mind, Calytrix has developed a tool for managing MSEL development and evaluation which aims to provide an affordable but scalable

solution designed to meet the needs of any group involved in the planning and execution of collective training events; regardless of size or complexity. Inject Planner allows distributed teams to develop and monitor a MSEL series which directly supports established training objectives.



The Inject Planner offers a number of advantages over traditional approaches to MSEL management:

- **Collaboration:** As a web-based software solution, Inject Planner allows multiple users simultaneous access
- **Exercise Construct.** Links exercise events (MSEL Injects) to stated training objectives (METLs) and provides rapid reports against desired outcomes.
- **Feedback.** Distributed access to MSEL data keeps all locations up to date and allows observers to provide feedback on exercise events *as they occur*.
- **MSEL Data.** Allows supporting documentation to be arranged and stored so it is available to exercise staff at the right time.
- **MSEL Status.** Allows exercise staff to rapidly view the planning status of each MSEL and to monitor events on an interactive timeline.
- **Reports.** Users can generate and distribute reports which show planned events or performance against specified training objectives.
- **Data Re-use.** MSELs and supporting data can be re-used across multiple exercises to provide savings in the time required for subsequent exercise planning.
- **Configurable.** The ability to simply configure MSEL templates allows the tool to be used from relatively simple small team training up complex multi-agency exercises.
- **Affordable.** The software design and supporting licensing models provide options for any sized training organization to utilise the tool.

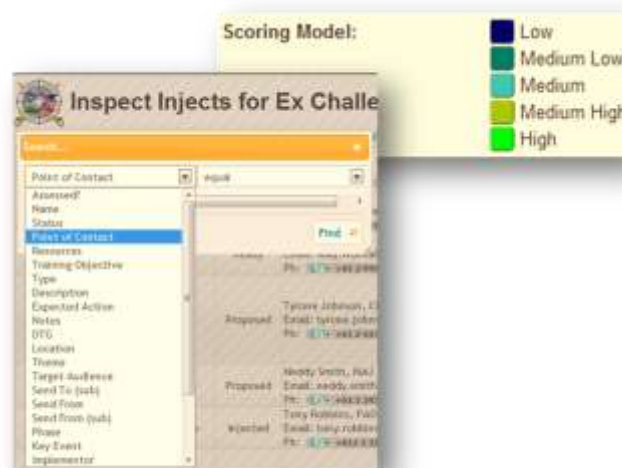
Features

Based on Calytrix's experience with supporting the design and development of collective training activities, the Inject Planner has been developed to provide intuitive and flexible functionality. Features of the Inject Planner include the ability to:

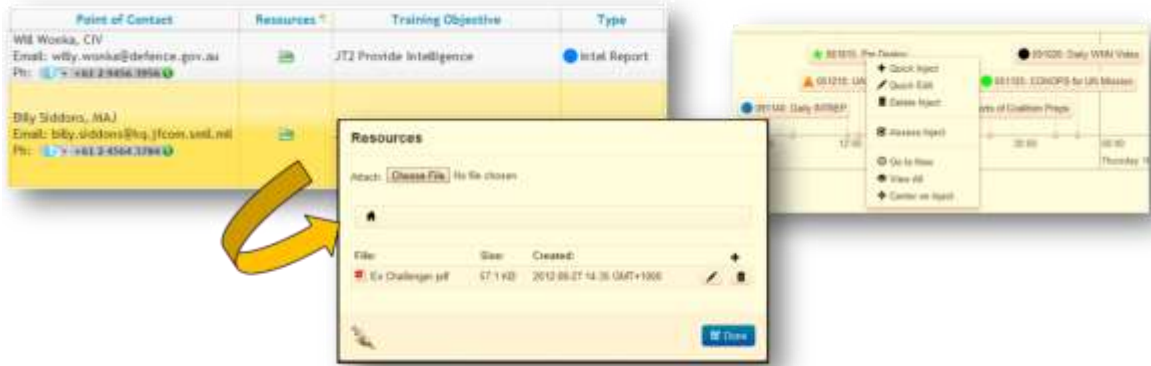
- **Create** new exercises or **import** existing ones.
- Create **custom templates** which reflect the exact MSEL Inject parameters required for any group.
- Define relevant **training objectives** (METLs) for each exercise and to link each MSEL Inject to one or more of these objective.
- Store and share exercise **documents** and supporting artefacts.



- **Add or edit** MSEL Injects from multiple locations concurrently.
- Track **inject status** during planning and execution.
- **Sort, filter** and **search** injects and view in a tabular format.
- Define **scoring models** to be used by assessment and evaluation teams.



- Attach **supporting documentation**, implementers and assessor guidance to each MSEL Inject.



- **Add, view, edit** and **monitor** MSEL Injects from a tabular view or from an interactive Schedule of Events (SOE). The SOE allows full editing functionality and displays planned MSEL Injects against current time.



- Conduct **distributed assessment** using defined scoring models and training objectives (with supporting assessment data),
- Conduct **real time monitoring** and adjustment of MSEL Injects through distributed feedback,
- **Generate and export reports** on inject planning and performance.

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01: EOC Activation	3
02: SNS	3
04: Patient Numbers	
06: School Closures	
13: Epidemiology	
20: NDC List	
21: Event Participants	
25: Universal Precautions	
27: Media	
29: PPE Logistics	
39: ECC Patient	
51: Transit Website	
Inject Assessments	
01: EOC Activation	

Inject Report: Ex New Dawn				
Type	Title	DTG	Score	Color
Email	01: EOC Activation	2012-09-05 00:00 GMT+1000	High	
News/Media	02: SNS	2012-09-01 00:00 GMT+1000	Medium High	
Radio	04: Patient Numbers	2012-08-28 00:00 GMT+1000	Medium High	
UAS Feed	06: School Closures	2012-09-01 00:00 GMT+1000	High	
News/Media	13: Epidemiology	2012-09-02 12:00 GMT+1000	Medium Low	
Role Play	20: NDC List	2012-09-03 12:00 GMT+1000	Medium	
Hand Deliver	21: Event Participants	2012-09-31 00:00 GMT+1000	Low	
Incident Report	25: Universal Precautions	2012-08-28 00:00 GMT+1000	Medium	

Designed for deployment on a LAN, WAN or over a public internet connection, the Inject Planner provides support to the MSEL development process by providing a collaborative software planning tool that allows organizations to efficiently manage collective training outcomes.

Inject Planner in Design and Execution

Design

Throughout the exercise design and development process, the Inject Planner provides the means to ensure that training objectives are synchronized with and supported by a clearly defined set of MSEL Injects. Exercise Directors have the ability to monitor story line (and supporting Injects) to ensure that these fit with scenario development and overall themes of the activity.



The ability to conduct distributed collaborative MSEL planning ensures that MSEL planners can reduce the time they need to spend face-to-face, or alternatively ensure that meetings are more productive by working from an established baseline.

Execution

During execution, Exercise Control (EXCON) has the ability to manage exercise flow and story development through a dynamic system of MSEL Inject management. Distributed observers can provide rapid feedback against each MSEL Inject in order to assess its effectiveness; information that is of limited value after an event. Distributed observers are also able to access relevant and timely data relating to each event allowing them to ensure that they are aware of:

- Upcoming schedule and any changes,
- MSEL Inject intent and assessment guidelines including expected participant responses, and
- Specific assessment criteria against the stated training objectives.

At any stage exercise staff can interrogate the Inject Planner to determine how participants are progressing against overall training objectives or review the status of each MSEL Inject as it nears execution.



Conclusion

The process of developing, executing and evaluating collective training can be a time consuming and costly one. Without the ability to focus the design and validation of exercise events around specific training outcomes, there is a great risk that these resources could be wasted.

Calytrix™ Inject Planner offers an affordable and flexible means for any sized organization to ensure that the time spent planning and executing collective training is time well spent.

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An online demonstration of Inject Planner is available at:

<http://www.calytrix.com/products/injectplanner/evaluate.html>