

Experience the thrilling reality of the Apollo 13 – simulation game

Learn and experience the benefits of ITIL best practice solutions during the 'Apollo 13 - an ITSM case experience™'

'Houston, we have a problem'

Fifty-five hours and fifty-five minutes into the mission. Imagine you are on board Apollo 13 when one of your crew members reports hearing a loud 'bang'. The bang is the explosion of the liquid oxygen tank #2 in the Service Module, providing vital oxygen used by the fuel cells that are Apollo's primary power source. The backup battery-powered electric supply in the Command and Service Module (CSM) has a lifetime of up to ten hours. Unfortunately, you are 87 hours from home. Your spacecraft is slowly dying. You have a serious problem, unless you and the ground support staff start working as a team to solve this problem. But remember, time is running out. Fast. Welcome to the 'Apollo 13 – an ITSM case experience™' simulation game.

One-day training offering real life situations

The 'Apollo 13 – an ITSM case experience™' simulation game is an intense, one-day training in which ITIL concepts and processes are experienced through the use of an interactive game. In this training, real life situations taken from the Apollo 13 mission are simulated. You will work in a team, playing the roles of the mission control centre in Houston. Your mission: bring the crippled spacecraft and its crew safely home. By doing so, you and your colleagues will learn and experience all the benefits of ITIL best practice solutions.



James A. Lovell, Jr.

'This is the crew of Apollo 13 wishing everybody there a nice evening, and we're just about ready to close out our inspection of Aquarius (the Lunar Module) and get back for a pleasant evening in Odyssey (the Command Module). Good night.' Nine minutes later, oxygen tank #2 blew up, causing #1 tank to also fail. The Apollo 13 Command Module's normal supply of electricity, light and water was lost, and they were about 200,000 miles from earth. Source: NASA.



Phase	Characteristics	Issues
Build & launch	<i>'Fitting it all together and making it fly'</i>	<ul style="list-style-type: none"> Managing the complex configuration of components that make up the Saturn V launch vehicle and spacecraft. Managing the release, build, and testing of the Apollo 13 vehicle. Integrating the vehicle electrical, flight and communications systems with mission control (Computer Operations & Service Desk).
Earth orbit & lunar approach	<i>'The earth is getting smaller and smaller...'</i>	<ul style="list-style-type: none"> Providing crew communication and support (Service Desk). Dealing with incidents and fixing problems (Incident and Problem Management). Invoking emergency abort procedures as availability of critical systems signals an approaching disaster situation (Availability and Continuity).
Transearth coast	<i>'The long journey home'</i>	<ul style="list-style-type: none"> Making the available oxygen and power last for the long journey home, with three men in a spacecraft designed for two (Capacity Management). Planning and executing untested changes to flight trajectory to ensure a safe return path home. The 'docked-DPS burn' (Change Management).
Re-entry and splashdown	<i>'Making it back alive'</i>	<ul style="list-style-type: none"> Proactively working to prevent a major problem as carbon dioxide build up threatens the astronauts' safety (Capacity Management, Problem Management and Configuration Management). Planning and executing a mid-course correction and fast engine burn to speed up the journey home. The PC+2 engine burn (Change Management). Managing the critical level of capacity to power up the Command Module and ensure all critical systems are operating (Capacity Management and Availability Management).

'As an aborted mission, Apollo 13 must officially be classed as a failure, the first in 22 manned flights. But, in another sense, as a brilliant demonstration of the human spirit triumphing under almost unbearable stress, it is the most successful failure in the annals of space flight'. Excerpted from W. David Compton, Where No Man Has Gone Before: A History of Apollo Lunar Exploration Missions (Washington, D.C.: NASA SP-4214, 1989).



What is the simulation game about?

In this game, you will work in a team consisting of 8 to 12 mission control centre members. This team will experience the four phases of the mission (as described above), facing mission events and situations. In each round, the team undergoes the following steps: designing the process, running the simulation, reflecting, and reporting. Throughout the game various ITIL processes are necessary to enable ground staff and crew to resolve problems and make timely changes to the spacecraft configuration and its trajectory. This game can also be played with multiple teams of 8 persons.

Post-mission reviews

During post-mission reviews discussions will take place about what went well and what went wrong. Is there room for improvement in the way you and your mission control colleagues co-operated? A review panel will discuss the following:

- Determining the root cause of failure (Problem Management).
- Recommending a service improvement plan (Service Level Management).
- Working proactively to prevent future accidents (Problem and Change Management).
- Game approach.
- Reflection on the team process.
- Solving process errors.
- Transferring the learning experience to daily practice.



NASA Service Level Agreements

Teams will receive Balanced Scorecards (BSCs) representing their Service Level Agreements (SLAs) with NASA (see below). At the end of each phase, teams will report on their compliance with the service levels required. Prior to each phase, elements of the ITIL theory are explained in relation to the processes that will be encountered in that specific round. The actual Apollo 13 mission will be reviewed and related to the ITIL processes at the end of each phase, showing how mission success was accomplished in the end by using these processes.



The game is designed for

- ICT employees, ICT managers, process managers, team managers, and others who want to improve their working processes.
- Employees requiring (more) ITIL knowledge or experience.
- Employees who have followed the ITIL Foundation course and want to experience the ITIL processes in practice.

Goals of the simulation game

- You will have a better understanding of the ITIL theory. By investigating the Apollo 13 case, you will have learned how ITIL processes were used in other environments.
- You will understand the interdependency of processes and the processes' impact on business continuity.
- You will have a better understanding of working processes. You will have learned how good designs can improve the performance of the service department.
- You will learn how to co-operate and how to improve working processes by designing and implementing as a team.
- You will have gained insight into possible improvements in your own working environment.

Perfection is difficult to achieve. It is even more difficult to maintain. The imperfection in Apollo 13 constituted a near disaster, averted only by an outstanding performance on the part of the crew, the ground control team and the processes and technology that supported them. The 'Apollo 13 – an ITSM case experience™' simulation game will bring out the best in you. Are you ready to give it your best shot?

Service Level Area	Requirement	Notes
Innovation and learning	<ul style="list-style-type: none"> • Deploy the Apollo Lunar Surface Experimental Package (ALSEP). • Take pictures of landing sites for future missions. 	<ul style="list-style-type: none"> • Yes or no.
Customer	<ul style="list-style-type: none"> • Astronaut safety measured as a percentage. 	<ul style="list-style-type: none"> • At the start of the game this is 100%. If events and situations are incorrectly dealt with, this will be reduced by a predefined % value.
Internal processes	<ul style="list-style-type: none"> • Percentage of incidents resolved in phase. • Average incident resolution time. • Overall process performance. 	<ul style="list-style-type: none"> • The Service Level Manager will gather incident logs to determine the percentage of incidents resolved and the average resolution time. • Internal process performance begins at 100. If events and situations are incorrectly dealt with, this is reduced by a predefined amount per event.
Financial	<ul style="list-style-type: none"> • Cost control. 	<ul style="list-style-type: none"> • Initial costs should be \$ 157,780,000. Incorrectly handled events and situations will cause additional costs.



The uniqueness of this game

- All ITIL processes are addressed within the simulation.
- The entire lifecycle of services is used within the learning process.
- A balanced set of performance indicators for service delivery is used.
- Service level reporting is required at the end of each round.
- Real life situations are used for reflection purposes.

What customers say:

- 'Really good, fun and an original way of simulating reality'.
- 'A real eye opener - which processes are running in parallel right now and which ones are important at that time'?
- 'We became aware of the interdependencies of processes'.
- 'Confronts you with decisions and choices that will have to be made'.
- 'Helps understand how priorities change as time goes by...'
- 'We can see the cost of doing things wrong'.
- 'Time pressure is like real life – it's about planning and making choices'.
- 'We have become aware of the chaos and confusion in the processes and of our own responsibilities'.

The simulation game's initiators

This simulation game has been developed by Jan Schilt and Paul Wilkinson. They are both specialists in designing and developing creative ways of learning. Jan Schilt has a degree in HRD, is a certified ITIL Service Manager and uses learning processes in developing ICT organisations. Paul Wilkinson is the author of one of the ITIL publications and has many years of practical experience in managing organisational change programs. Paul is also co-author of the 'Not the ITIL' publications. Jan Schilt and Paul Wilkinson are both successful speakers and workshop leaders.

For more information about the simulation game check out www.gamingworks.nl or contact:

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The builders of the 'Apollo 13 - an ITSM case experience™' would like to thank and acknowledge NASA as the source of the actual Apollo 13 mission photo material used, and Universal Pictures as the source and copyright owners of the Apollo 13 motion picture photo material used.