

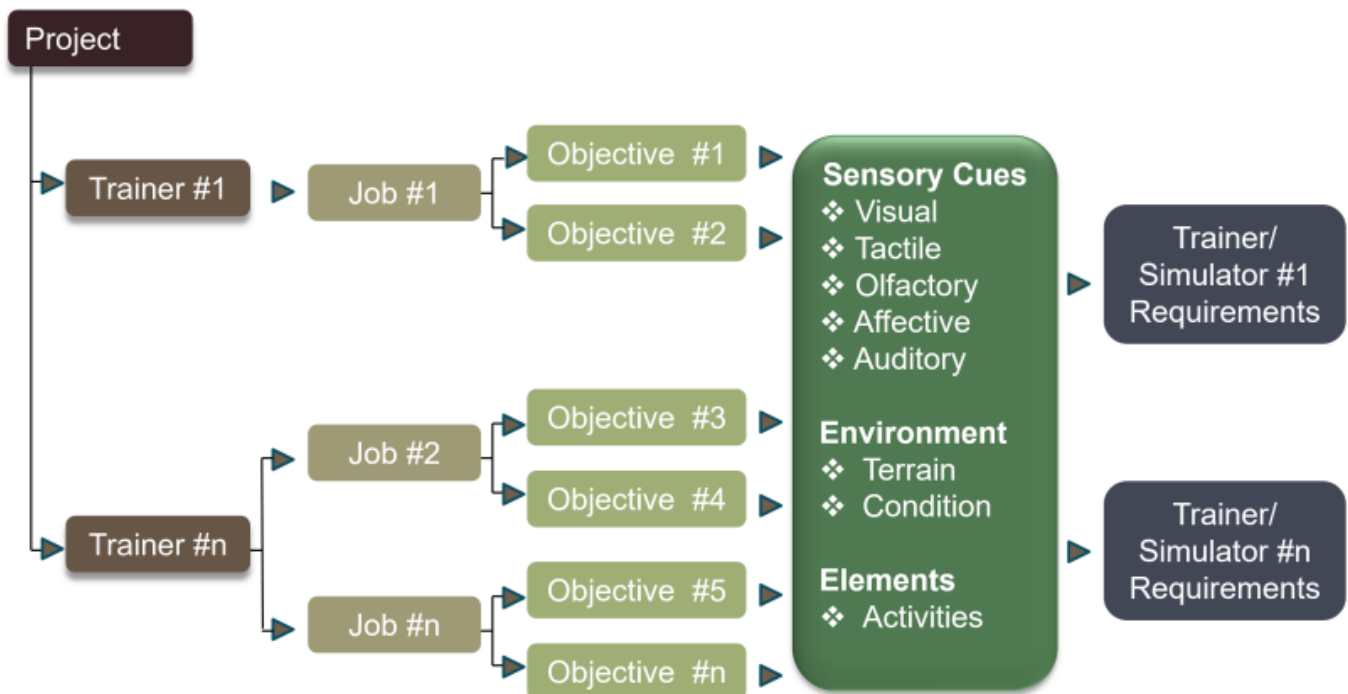


# ADVISOR Series

## How to Leverage ADVISOR Capabilities 5 of 9

Needs Analysis Design **Fidelity** Resources Management Performance Life Cycle

**Fidelity Analysis:** To assess the functional requirements of training devices, immersive technologies (XR) including virtual reality, augmented reality and mixed reality, and simulators; based on training needs and performance objectives. Identifies visual, tactile, olfactory, affective, and auditory sensory cues needed to practice tasks, within realistic environments, under pre-set conditions to attain the desired level of competency. In addition, ADVISOR takes into account elements within the virtual world and how users interact with each.



## Step 1.

### Fidelity Analysis Approach

### Objective

Identify training & XR devices including components to be analyzed. Two approaches maybe used to assess fidelity requirements. Job Analysis if Learning Objectives have not been defined & media analysis has not been conducted. Course Analysis if Learning Objectives have been defined & media analysis has been conducted. Process unfolds as follows:

- Identify Training & XR Devices & components to be assessed
- Select fidelity analysis approach, i.e., Job Analysis or Course Analysis

### Inputs

- ✓ Original Equipment Manufacturer (OEM) manuals
- ✓ Subject Matter Experts (SMEs)
- ✓ Systems & sub systems list
- ✓ Human performance requirements

### Outputs

- ✓ Training/XR Devices & Components
- ✓ Fidelity Analysis approach

## Step 2.

### Define Sensory Cues

### Objective

Setup sensory cues for defining training & XR device requirements. Sensory cues can be grouped in broad categories such as Physical, Functional, Environmental, Tactile & Cultural, or specific categories such as Visual, Tactile, Olfactory, Affective, Auditory, etc. Responses to cues can be captured as comments or a pick from a dropdown list. For example, the following options may be provided for Field of View: 30, 60, 180 & 360 degrees. Process unfolds as follows:

- Define cues categories
- Define cues under each category
- Specify response type for each cue - i.e., alphanumeric or dropdown
- List options for dropdown responses

### Inputs

- ✓ JSP 822 sensory stimulus cues
- ✓ MIL-HDBK-29612-2A sensory stimulus cues
- ✓ Other sensory stimulus cues

### Outputs

- ✓ Sensory cues repository

## Step 3a.

### Job Task Sensory Cues Analysis

### Objective

Identify jobs that will be trained on each device. Define sensory cue requirements for relevant performance/enabling objectives. Process unfolds as follows:

- Identify jobs to be trained on each device
- List performance/enabling objectives to be trained on device
- Define standards, conditions, and other attributes, for each objective
- Identify the sensory cue requirements for each objective

### Inputs

- ✓ Occupational structure
- ✓ Subject Matter Experts (SMEs)
- ✓ Human performance requirements
- ✓ Occupational specification report
- ✓ Job/Role specification report
- ✓ Job Analysis report
- ✓ Sensory cues repository

### Outputs

- ✓ Sensory cue requirements for each objective

## Step 3b.

### Course Sensory Cues Analysis

#### Objective

Identify courses that incorporate or can benefit from the incorporating of training & XR devices. Define sensory cue requirements for relevant course objectives. Process unfolds as follows:

- Identify jobs to be trained on each device
- Identify courses that incorporate or can benefit from the incorporating of training & XR devices
- List objectives to be trained on device
- Identify sensory cue requirements for each objective

#### Inputs

- ✓ Occupational structure
- ✓ Subject Matter Experts (SMEs)
- ✓ Human performance requirements
- ✓ Occupational Specification Report
- ✓ Mission, System, and Job Training Requirements Analysis Report
- ✓ Course Analysis Report
- ✓ Training Plan Report
- ✓ Sensory cues repository

#### Outputs

- ✓ Sensory cue requirements for each objective

## Step 4.

### Components Analysis

#### Objective

Identify components within each device that require in-depth analysis. Define the sensory cue requirements for relevant objectives. Process unfolds as follows:

- Identify components that require in-depth analysis within each device
- List objectives to be trained on each component
- Identify sensory cue requirements for each objective

#### Inputs

- ✓ Occupational structure
- ✓ Subject Matter Experts (SMEs)
- ✓ Human performance requirements
- ✓ Occupational Specification Report
- ✓ Mission, System, and Job Training Requirements Analysis Report
- ✓ Course Analysis Report
- ✓ Training Plan Report
- ✓ Sensory cues repository

#### Outputs

- ✓ Sensory cue requirements for each component

## Step 5.

### Synthetic Environment Analysis

#### Objective

Define the synthetic (virtual) environment in which the training or XR device resides. This may include terrain & environmental conditions. Process unfolds as follows:

- Define the types of terrains to be supported such as flora, fauna, man-made, etc.
- Define the environmental conditions to be supported. For example, day & night, seasonal changes, and so forth
- Define controls that users should have over the synthetic environment

#### Inputs

- ✓ Mission, System, and Job Training Requirements Analysis Report
- ✓ Assessment, instructional & training strategies
- ✓ Media Analysis Report
- ✓ Training Plan Report
- ✓ Human performance requirements
- ✓ Original Equipment Manufacturer (OEM) manuals
- ✓ Subject Matter Experts (SMEs)

#### Outputs

- ✓ Synthetic environment requirements



## Step 6.

### Synthetic Environment Element Analysis

#### Objective

Define the elements/objects within the synthetic (virtual) environment that the user interacts with. Process unfolds as follows:

- List the elements/objects within the synthetic environment that the user can interact with
- Define activities - i.e., how users can interact with each element. For example, user's ability to detect, observe, recognize & identify an object under specific set of conditions

#### Inputs

- ✓ Mission, System, and Job Training Requirements Analysis Report
- ✓ Assessment, instructional & training strategies
- ✓ Media Analysis Report
- ✓ Training Plan Report
- ✓ Human performance requirements
- ✓ Original Equipment Manufacturer (OEM) manuals
- ✓ Subject Matter Experts (SMEs)

#### Outputs

- ✓ Synthetic environment elements requirements

## Step 7.

### Training Device Functional Requirements

#### Objective

Generate concise summary of functional requirements for each training & XR device. This includes:

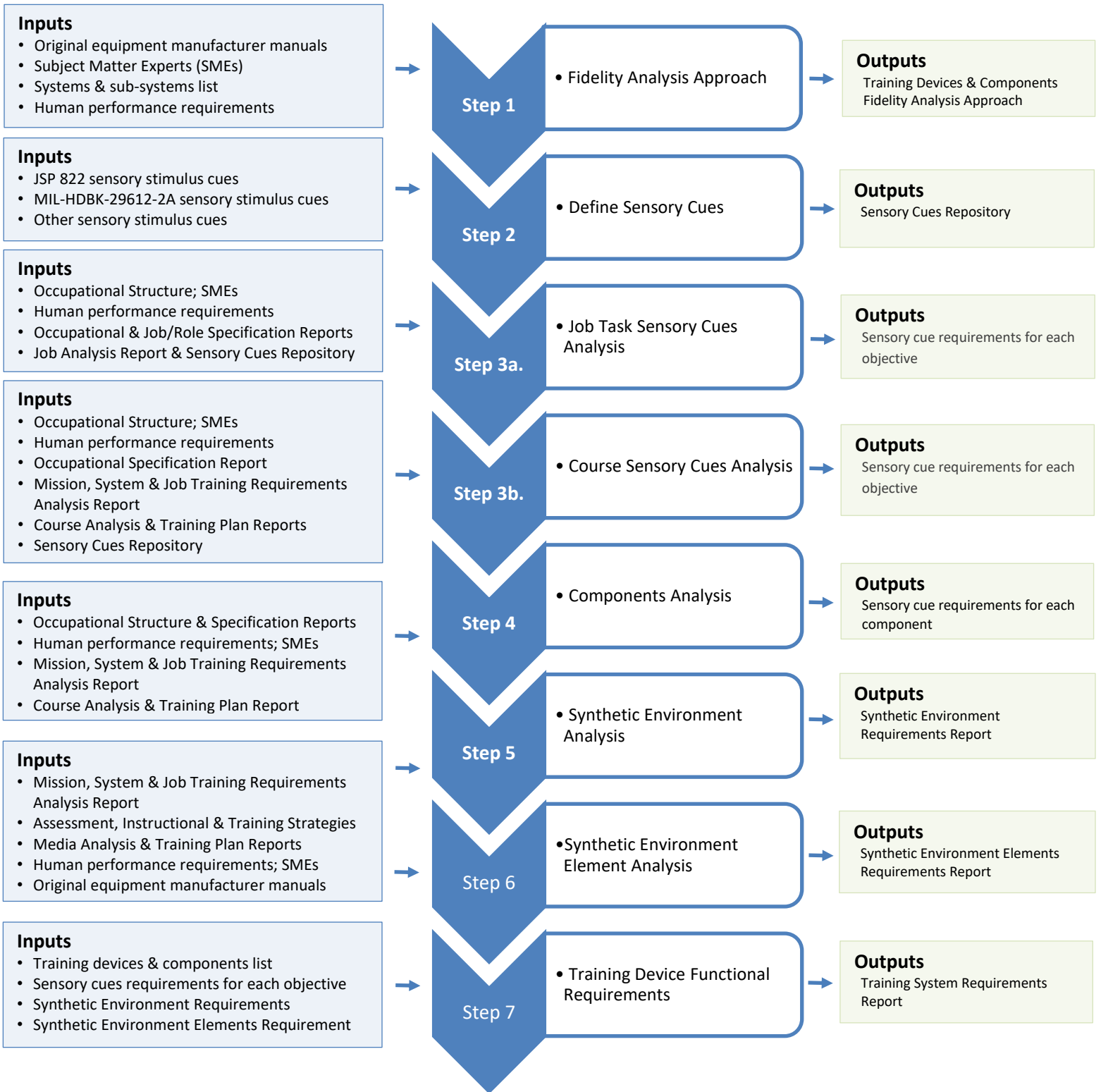
- Tasks/Objectives that each Job is expected to perform on the training & XR device
- Sensory cue requirements for training, & XR device, as well as Components
- Synthetic environment requirements
- Synthetic environment elements/objectives

#### Inputs

- ✓ Training & XR devices including components
- ✓ Sensory cue requirements for each objective
- ✓ Synthetic environment requirements
- ✓ Synthetic environment elements requirements

#### Outputs

- ✓ Training System Requirements Report



**Contact us today to find out how we can assist you streamline fidelity analysis & drive training efficiency.**