Graded Case Study 2, Part I

The Project

ECO-Trans is a European company providing "driver assist" technology for use in buses, trains, and other mass transit vehicles. Its flagship product, ECO-Stream, is a small, durable computer screen installed in a driver's space or an engineer's cab that provides operators with targeted suggestions. The ECO-Stream system analyzes the current route of a bus or train, including the scheduled time of arrival, and advises the operator on techniques (such as gear or notch choice, when to brake or "coast," etc.) that will realize the greatest fuel savings. These driving recommendations are based on data collected from the transportation network, including road or track configuration, maximum timetable speeds, traffic, or other speed restrictions and delays.

In addition to better schedule adherence, the key benefits of ECO-Stream are savings on fuel consumption and reduction in CO_2 emissions.

Astrid Varga is a project manager for ECO-Trans. She is currently leading her team's implementation of ECO-Stream for a major client, Sunshine Rail Transit (SRT), which operates light rail commuter service between several major cities in the Southeast. SRT's Operations Department contracted with ECO-Trans to implement customized ECO-Stream systems in all 53 locomotives in its fleet.

Schedule and Cost

Varga is working with a detailed project plan to manufacture, install, and calibrate the system. The plan essentially spans two key phases: the first dedicated to the installation and monitoring of trial

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equipment, and the second dedicated to installing the ECO-Stream modules and equipment on the entire SRT light rail locomotive fleet. The first phase is critical in helping Varga's team determine the best way to configure the system so it provides the most benefits to SRT operations.

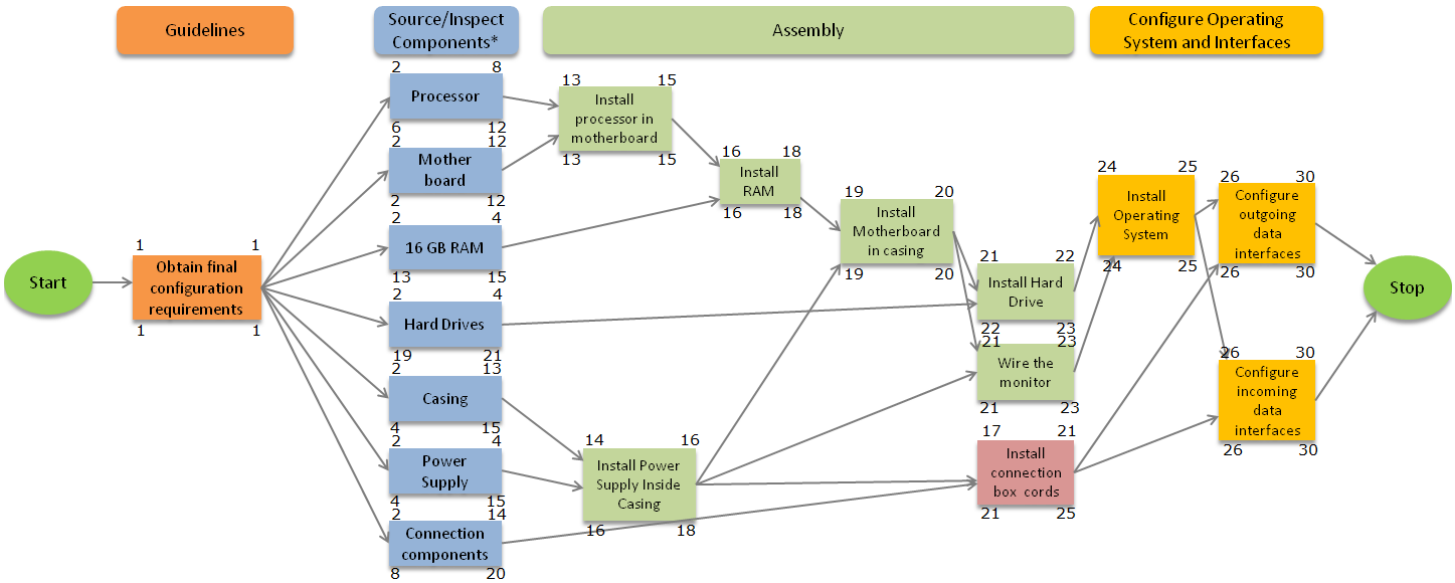
The implementation schedule covers a 15-month time frame, with the following summary of key milestones:

- Nov 2012: Project initiation
- April 2013: Complete system test on North Central line and document results
- May 2013: Confirm funding by state transportation authorities and SRT
- June 2013: Implement equipment for central control room
- Sept 2013: Equip first phase of locomotives with the system
- Jan 2014: Equip entire fleet with the system
- Feb 2014: Complete end user training

The first four major milestones above were completed smoothly. The implementation of the fleet equipment, however, has run into some roadblocks that are creating delays. Specifically, the delivery of a key component in the ECO-Stream cab computer terminal has been found to have defects and must be returned to the supplier.

Varga is under pressure from both her manager and John Schaller, the client's Project Sponsor, to deliver the system on schedule and within budget. Schaller has been clear that there is no possibility to allocate additional money (above and beyond the authorized budget) for the ECO-Stream project.

To consider her options for compressing the schedule, she reviews the network diagram for manufacturing and configuring the ECO-Stream terminals:



The ECO-Stream terminal contains the driver's interface screen that displays information and video. It also connects to a "communication box." The communication box sends and receives data on train speed, energy consumption, GPS location, and arrival and departure times; it does this by

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interfacing with multiple devices that collect this data.

The defective component is needed to connect the terminal to the communication box. Delayed connection parts will delay the configuration of critical incoming and outgoing data interfaces to the driver's terminal.

Looking at the network diagram, Varga decides that she can use crashing to get the necessary components from an alternate supplier. She knows that this supplier will charge more per part, especially with expedited delivery, but she cannot think of another way to restore the terminal manufacturing schedule and meet the client's installation target.

Before you move on to the next section of the case study, identify the problems and/or issues that you'll need to include in your analysis. Document this information, and consider how you will integrate it into your evaluation of the project.

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