

Application Report

The Total Cost of Ownership

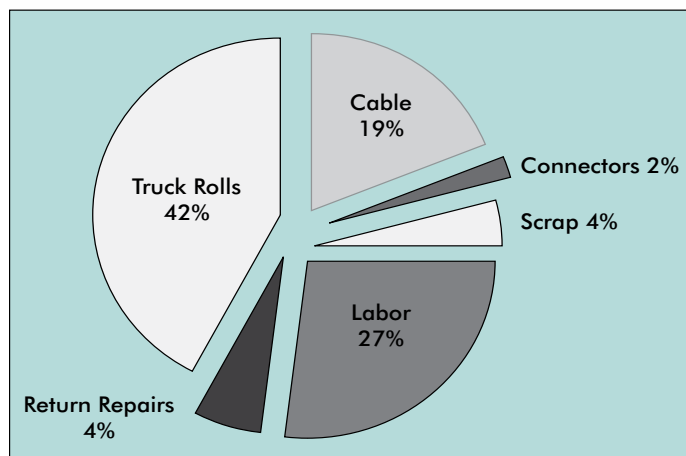
Drop Cable

In recent years alternative coaxial drop cable has become available from a variety of suppliers, both foreign and domestic. When considering the purchase of a drop cable from an alternative supplier, the product price is quite often a major consideration. Many of these alternative suppliers are offering what appear to be significantly lower prices than legacy suppliers, for what appear to be identical products. At the same time, a user must often accept some additional quality risk or service restriction to use these alternative products.

If cost savings is the primary interest of a business, the initial price of a product cannot be the only consideration. The cost of maintaining and operating that product must also be considered. This paper discusses the overall impact and cost associated with the selection of alternative coaxial drop cables. The total cost of ownership of a coaxial drop can be readily calculated, and is affected greatly by the quality of a vendor's products and their service model.

The Cost Model

When calculating the total cost of ownership of a coaxial drop cable, several factors must be considered. The graphic below shows many of the costs that are involved in the use of a drop cable, as a percentage of the total.



Each of these factors can and should be adjusted to fit an individual system's experience to validate this model, but the overall concept will apply in any case. If a customer is interested in reducing costs, the largest cost contributors are the appropriate place to focus. In our case, reducing in order the number of return truck rolls, the cost of labor, and the cost of cable will have the largest impact.

The complexity in this model occurs when the cost impacts are inter-related – that is when making a change in one area either positively or negatively impacts another. Consider two examples – a reduction in labor involving lower cost employees or increased quotas may negatively impact scrap, return repairs and truck rolls, just as the selection of a cheaper cable may negatively impact scrap, may increase labor and connector usage, and may also increase return repairs and truck rolls. A solution must be found that minimizes the overall cost of ownership, and that may not be found by minimizing any of the individual contributors.

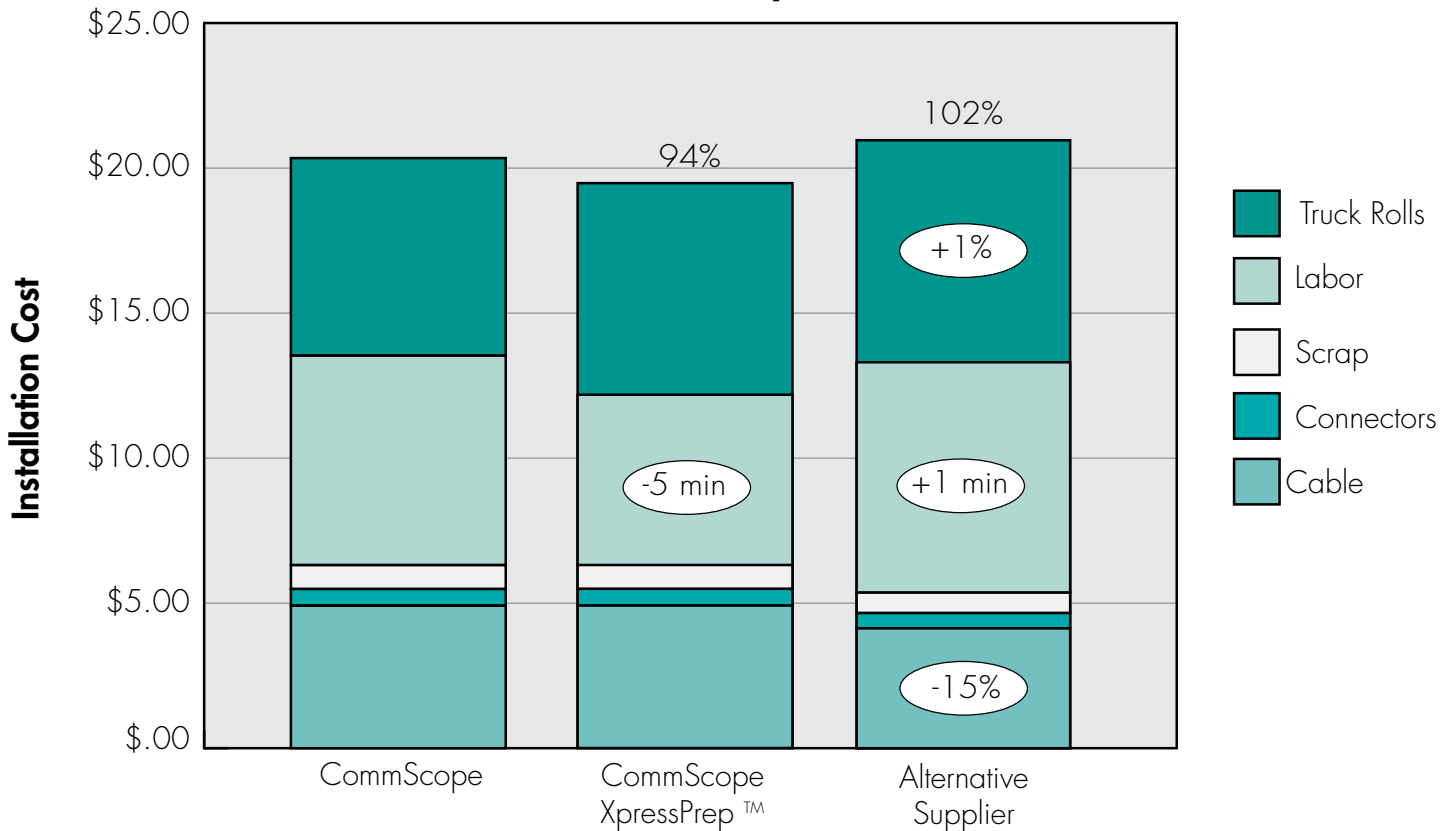
The Impact of Cable Choice

Coaxial cable in the drop environment has long been considered a low risk and perhaps even commodity item. In reality, the coaxial drop is the last connection to the customer, controlling their user experience. Any drop cable related quality issue requires a truck roll to repair, and there are as many drops as there are subscribers in every system.

Over the years, legacy cable suppliers have developed standards in conjunction with connector manufacturers and system operators, as well as processes for ensuring the consistent quality of cables produced. The alternative suppliers are often new to this space, are still developing processes and gaining familiarity with standards.

The impact of this is that an alternative cable choice can and will have some percentage of quality or service related issues that result in additional cost for a system operator. Also, as this analysis will show, these impacts, even if small, can effectively reverse any savings achieved through lower pricing.

Total Cost Comparison



Truck rolls are the major contributor to overall ownership cost. Assuming that 7% of the plant must be revisited annually, and that a truck roll costs \$100, a 2% increase in truck rolls due to quality issues, equating to \$2.00 per install, will increase the cost of ownership 9%.

The labor impact is also significant. An increase in cost of ownership between 4 and 6% is easily calculated due to many factors, from difficulty in applying connectors to additional attempts to find an acceptable length of cable. Like truck rolls, the impact of a small change is magnified by the large impact labor has on the overall cost of ownership.

Finally, scrap costs in both cable and connectors can contribute several percentage points to the overall cost of ownership. Each time a cable will not dispense from a box, or a misshapen end will not accept a connector, scrap is generated. In those cases where a return repair is required, costs skyrocket.

Overall, the total cost of ownership of a drop cable is impacted by implementation costs to a much greater extent than it is impacted by cable costs. In many of our calculations, even price differentials of as much as 20% were reduced or even reversed looking at total cost of ownership with very conservative assumptions.

