从cost management角度分析该项目失败的原因：

**Improper cost estimation**

1. The initial overall budget of 1.5 million was taken out of context.

There is no clear rationale as to how this figure was arrived at. It is probably safe to assume that this is based on the previous figure supplied by the independent assessment of the previous failure. This figure is predicated on the assumption that a suitable package could be found and that the original assumptions hold.

关于这个数字是如何得出的，没有明确的理由。假设这是基于先前故障的独立评估提供的先前数据可能是安全的。这个数字是基于可以找到合适的包并且原始假设成立的假设。

In practice, no such package was deemed suitable and an additional requirement for mobile data and vehicle location systems was added to the requirements. Each of these factors should have resulted in a serious reevaluation of this cost. The group used the initial price, which was taken out of context, and with the wrong set of assumptions as their anchor. Decision makers often use the first figure offered as an anchor and adjust subsequent values in small increments. In the context of group decision making, where all members were part of the management function, it became easy to home in on the initial value and use groupthink and group dynamics to defend it.

在实际实践中，没有找到被认为是合适的包，并且在要求中增加了对移动数据和车辆定位系统的额外要求。这些因素中的每一个都应该导致对该成本的认真重新评估。该小组使用了断章取义的初始价格，并使用了错误的假设作为他们的锚点。决策者通常使用提供的第一个数字作为锚点，并以小增量调整后续值。在群体决策的背景下，所有成员都是管理职能的一部分，很容易锁定初始值并使用群体思维和群体动态来捍卫它。

1. Cost considerations took precedence over vendor’s ability.

For vendor selection, the LAS management was supposed to use a protocol that assigned the highest weight on vendors’ ability to perform the tasks for LASCAD. Yet, the priorities started to shift and cost considerations eventually took precedence over ability. Its proposed cost was 44% lower than the next-lowest bid. It was dumbfounding as to why the ridiculously cheap deal did not trigger any alarm bells. The LAS management should have done more checks to ensure that vendor had the ability to undertake LASCAD. At the minimum, it ought to request the details of all prior projects that had been successfully completed.

对于供应商选择，LAS 管理层本应该使用一种协议，该协议分配给供应商执行 LASCAD 任务的最高权力。然而，优先顺位开始发生变化，成本成为优先考虑的而非能力。其提议的成本比次低的出价低 44%。令人哭笑不得的是，为何如此便宜得离谱的交易并没有引起任何警钟。LAS 管理层应该做更多的检查，以确保供应商有能力进行 LASCAD。至少，它应该要求提供所有已成功完成的先前项目的详细信息。

The LAS accepted the cheapest proposal of £1.1 million prepared by the consortium of Apricot Computers. When the fiasco was uncovered, the shift of priorities in vendor selection attracted a lot of flak from the parliamentary public inquiry.

LAS 接受了由 Apricot Computers 财团准备的最便宜的 110 万英镑提案。当惨败被揭露时，供应商选择的优先事项的转变引起了议会公开调查的大量抨击。

**Poor budgetary control**

1. The budget allocated for the software component of LASCAD was shoestring.

the budget allocated for the software component of LASCAD was only £35,000, less than 5% of the total estimated cost while the rest was reserved for hardware. In a supposedly software-intensive system, the software component of the project was ironically just a cheap throw-in in a hardware-centric deal with a hardware supplier.

分配给 LASCAD 软件组件的预算仅为 35,000 英镑，不到总估计成本的 5%，而其余部分则用于硬件。在一个所谓的软件密集型系统中，具有讽刺意味的是，该项目的软件组件只是与硬件供应商进行以硬件为中心的交易中的廉价投入。

该项目采用的cost estimation方法不明

* 原文提到1980年代曾经失败的LASCAD项目，当时的累积成本已经高达750万英镑，以至于不得不取消项目。新版的技术比原版更加先进，但成本却只有150万英镑，显然，LAS没有比照类似历史项目的实际成本。因此采用Analogous approach来改进cost estimation是必要的。
* 原文提到该项目可能采用了Bottom-up approach。但实际失败原因不是出在成本评估方式上。而是由于poor budgetary control，用于software开发的预算微薄，导致项目失败。因此可以认为该方法其实是可行的。

分析适合该项目，并可以改进成本估算结果的方法：

1. Analogous approach

The LAS may employ an analogous approach for cost estimation, which relies on the actual cost of similar historical projects (Heemstra, 1992).

LAS 可以采用类比成本估算法，该方法比照已完成的类似历史项目的实际成本（Heemstra，1992）。

Case举例：

1. Bottom-up approach

In this approach, the cost of every individual component is estimated first. The individual costs are added to estimate the total cost (Boehm et al., 2000).

在这种方法中，首先估计每个单独组件的成本。将单个成本相加以估算总成本（Boehm 等，2000）。

Case举例：