



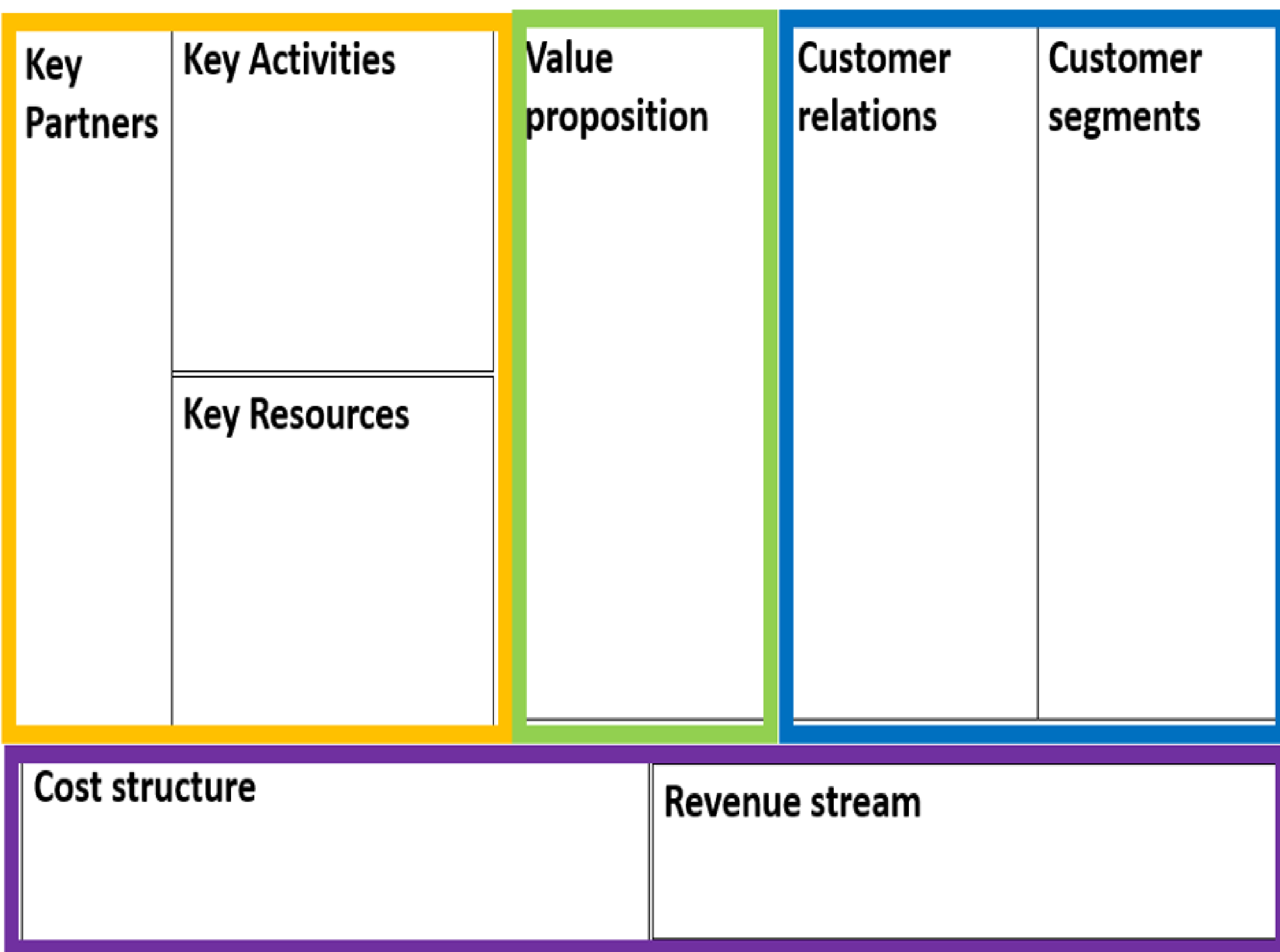
# Automated Loading and Unloading for Trucks

## A Case Study Based on the Business Model Canvas

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### Purpose

Autonomous vehicles for freight transport have potential benefits but the transition to a future autonomous (and electric) freight system needs to take account of the interface between the vehicle and other parts of the logistics system. The purpose of the research is to assess the prerequisites for automated loading and unloading and to understand how this could impact the business relationships between partners in the supply chain.



Applying the Business Model Canvas

### Method

The research is based on a pilot project at a manufacturing company where pallets are currently moved between a production location and a storage site using conventional trucks - loading and unloading is carried out by the truck driver using a conventional Forklift Truck. During the pilot project the conventional truck will be replaced by an autonomous electric vehicle and the loading and unloading will be carried out using an Automated Guided Vehicle. This paper is focused on changes in the business relationships between the various actors involved in the current and future system. The Business Model Canvas framework has been used based on in-depth interviews and observations.

### Findings and Originality

Findings include the greater complexity and the need to introduce new supply chain partners to achieve a fully automated process. Issues concerning regulations and responsibility have also emerged as factors that will affect the business case for such an innovation.

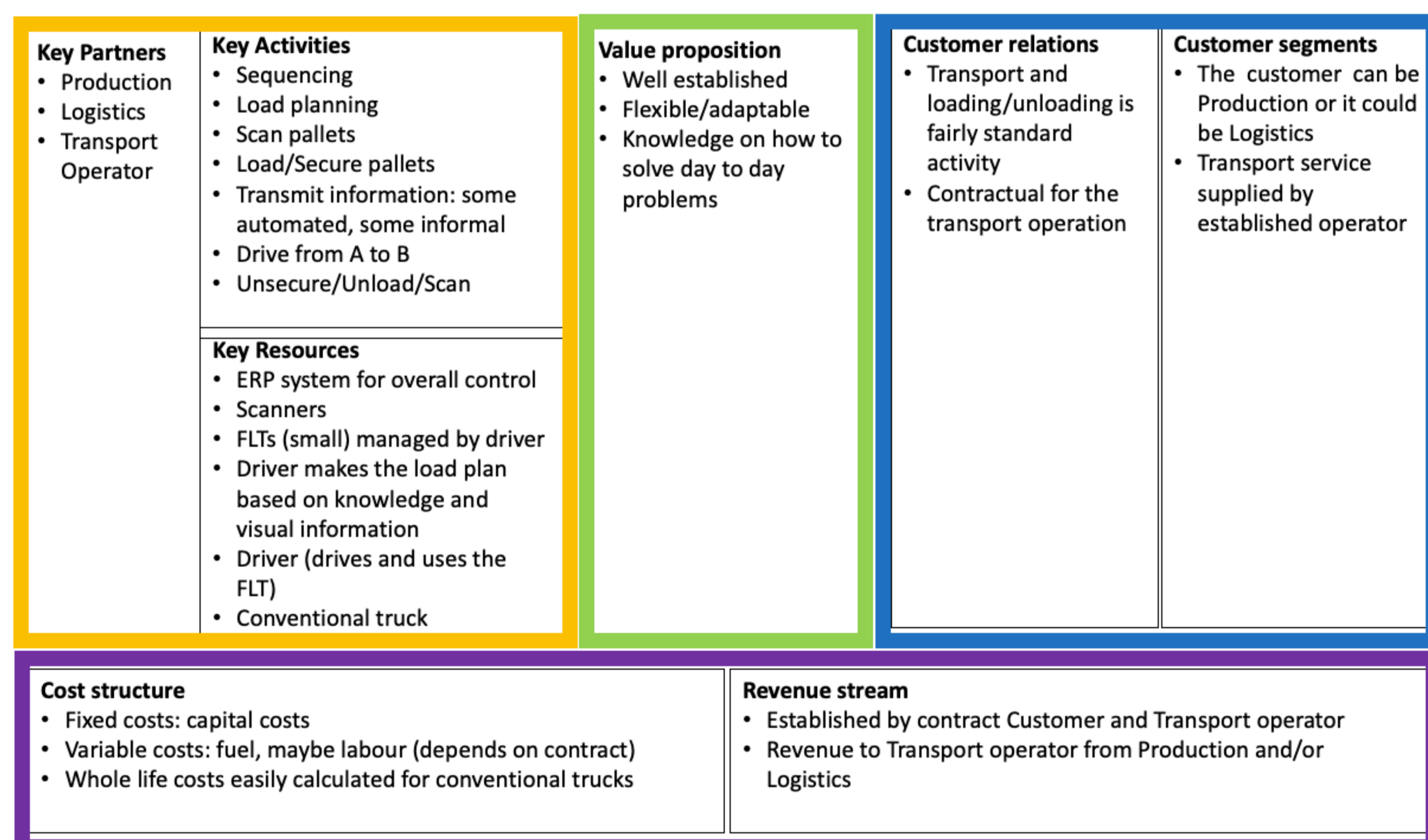
### Research Impact

The research will lead to greater insights into the complexity of the interfaces in autonomous and automated transport and logistics systems and the empirical findings will enrich the discussion of this field.

### Practical Impact

Autonomous transport systems may bring many benefits. However, the scale of these benefits will be diminished if questions about the interface points in the logistics system are not addressed. Research outputs will provide insights for managers addressing the challenges.

Business Model Canvas Current: Conventional loading/unloading and truck + driver



### Take away message

This research studies automated truck loading, highlighting complexity, new partners, and the importance of addressing interface points for optimal benefits in autonomous transport systems.

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