



# The Essential Guide for Trucking Fleets to Tackle **Technical Debt**



Motorcity Systems



The trucking industry is no stranger to debt. Lean profit margins, expensive equipment, and evolving headwinds make debt a necessity for many companies to survive.

One critical liability fails to appear on the balance sheet, however, despite fleets spending 50% of their IT budgets to maintain existing technology. This liability is “tech debt,” and few know how to measure or manage it.

Despite tech debt being a real financial liability, many companies are not paying it down. This can be a costly mistake since it is not just “a technology problem” but a multi-million-dollar risk for trucking enterprises.

There is no avoiding technical debt completely, but there are optimal ways to manage the challenge. Rather than focus exclusively on top-line growth or bottom-line reductions, companies that look for innovations in the middle to power system integrations will find an advantageous option.

## Innovations in Software Integrations can quickly resolve Tech Debt challenges



“To not have to maintain all this tech debt moving forward, I’m trying to get to a single interface that allows me to publish from one system and then have multiple subscribers. We want to be able to reuse integrations, especially as we add or acquire new companies moving forward.”

Jay Delaney  
Vice President of Technology Operations, Daeske, Inc.

## Understanding the Tech Debt Tradeoff

Tech debt accumulates when a technology design or integration values short-term expediency over limiting long-term complexity and costs. The move is like the “buy now, pay later” model. You get what you need today in exchange for a higher future cost.

Technology teams make these decisions in the name of speed. They get systems running and into production faster by compromising design. The debt exists because the team understands the code or setup will require future attention that ideally would have been addressed at the time of configuration.

Companies benefit by saving time and money during implementation. However, technical decisions made for immediacy, simplicity, or budget rarely age well. The debt comes in the form of systems that underperform over time, increasing operational costs and risks.

Eventually these setups require what technology experts call “human spackle.” Without the necessary improvements, staff must prop up the system. By performing extra tasks and creating additional workarounds, business continues as usual but with wasted time and money in employee overhead.

Like financial debt, some tech debt is good. It allows companies to maximize immediate returns or more quickly work toward future goals. Yet companies must use this debt responsibly. The longer it takes to pay off technical debt, the more interest and cost accumulate. The practice of always adding new debt without reducing existing balances can ruin a trucking company.

The key is striking a balance between business goals and mounting technology design and integration decisions.



## Technical Debt: Work Now, Worry Later?

When it comes to technology, time is the enemy. Businesses often cannot wait for technical teams to implement the optimal solution for a system or integration. Nor can they always afford disrupting the business by implementing the best solution “right now.”

The challenge for technology experts is that tomorrow usually never comes. That means the technical debt continues piling up as more pressing issues impacting business today become the priority.



### Common causes of technical debt include:

- Pairing new technology with legacy systems
- Dedicating insufficient time to mounting project backlogs
- Integrating systems between business departments
- Connecting disparate systems from a merger or acquisition

Tech debt also comes as good design ages. Rather than instituting full-scale improvements, quick fixes commonly become the go-to. This creates a setup that grows unnecessarily complex and difficult to maintain. Every patch moves the system away from being the best solution and adds to the debt that will come due eventually.

A high proportion of technical debt is expensive for a company to maintain. However, the biggest cost comes in the form of slowing or preventing innovation. When trucking companies focus too much on doing the same thing today that they did yesterday, they forgo technology-driven opportunities to significantly advance productivity and profitability.

In a business where every penny counts, that opportunity cost can become the most important financial burden to overcome.

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### Do Any of These Common Tech Debt Examples Sound Familiar?

- Outdated versions of Windows or other software preventing upgrades
- ERP or TMS systems that are so old or highly customized that “rip and replace” seems to be the only option for improvement
- Similar systems with overlapping functions used in different parts of the organizations
- Project backlogs with several employee-submitted tickets related to user experience
- Data black holes due to limited, poor, or nonexistent integrations
- Disparities between different systems that impact team productivity, collaboration, and compatibility.
- Outdated security practices placing the business at risk



## Calculating Your Level of Technical Debt

Most companies have a technology budget and a queue of projects, fixes, and upgrades. However, pairing them down to calculate the tech debt is not always common practice—but it should be. The cost may be higher than you think.



Use the following exercise to assess the cost of your tech debt.

**Total annual IT spending:**

**Expenditures related to maintaining current business expenditures:**

1. Operating and maintaining current systems:

2. Development projects for replacing unreliable components or restoring functionality:

3. User support and bug fixes on existing systems:

4. Software maintenance contracts and routine upgrades:

5. Setups to move data between systems (E.g., integration platforms, enterprise service buses, ETL tools):

**Total Maintenance Costs:**

**Total Maintenance Costs:**

**+ Total IT Spending:**

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**= % Tech Debt**

The standard goal is spending less than 50% of the annual technology budget on maintaining existing business operations. This allocates half of spending for innovation to advance the company.

Tech debt will never be zero but should not be high enough to prevent progress.





## Accounting for the Impacts of Tech Debt

Companies treat financial debt as everyone's problem. Yet technical debt often becomes "IT's problem." The two are remarkably similar with very real costs. Both have ripple effects for a business's people, processes, and profitability.

If your company has been treating tech debt as tomorrow's problem, today might be the right time to make a change. Two major 2023 headwinds appear poised to intensify the impact of this frequently underestimated liability.

### The Economy

Despite record trucking profits in 2022, economists predict a big course correction happening in 2023. Analysts anticipate a 27% drop in net income, the biggest year-over-year decline in the industry's history. The *Commercial Carrier Journal* reports an expected 14% decrease in contract rates over the same time. Continued truck and parts shortages will keep companies operating equipment past normal trade cycles with maintenance costs already up nearly 11%.

**Rising costs and decreasing profits make minimizing tech debt even more important. When left to accumulate, the price of the debt shows up in:**

- **Increased headcount to maintain existing operations.** McKinsey reports companies lose 16% workforce efficiency due to bad data management alone.
- **Lost sales due to system outages and limitations.** A study of sales reps found only 35% of time is spent selling. Poor system setups that decrease efficiency eat up a large portion of the remaining 65%.
- **Additional working capital requirements to maintain the status quo.** Developer time increases to maintain outdated systems. Companies pay more to maintain redundancies. A Veritas Technologies study found systemic data management challenges cost businesses \$2 million per year and hinder 38% of business leaders from making strategic decisions.
- **Poor utilization due to inefficient system management.** Trucking companies only use a fraction of the data generated by commercial vehicle telematics today. The industry is expected to grow by \$118 billion in the next five years. Businesses failing to invest in leveraging this information now will be unable to compete with those that do in the future.



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“In order to give a buyer confidence, you have to have quality data. So that either means having a good system or someone on the back end that has the ability to transform that data into quality data. Finding those types of people in trucking is difficult.”

**Chris Henry**  
Chief Operating Officer,  
KSM Transport Advisors



## Mergers and Acquisitions

Economic indicators point to a recession in 2023. Downturns typically increase the number of mergers and acquisitions happening in an industry. However, 70-90% of acquisitions are unsuccessful. The biggest culprit: failed integrations.

Tech debt accumulates when companies choose a quick, point-to-point integration design versus incorporating the full systems. Teams avoid scrapping the technology that was included in the purchase price and training an entire staff to use a new system. Instead, the decision works to immediately realize short-term benefits of the M&A activity.

The move rarely works out as planned. Companies who operate with minimal visibility to the larger operation will limit most of the anticipated synergies. That creates problems for how efficiently the entities run from day one. The tech debt complicates or prevents business sharing, optimized bidding, and maximized equipment and driver utilization. Plus, centralized management becomes infeasible. The problem only grows with additional acquisitions.

Quick integrations at the expense of optimal setups also can prevent companies from growing and evolving. McKinsey reports 87% of surveyed CIOs cited their existing infrastructure’s complexity as a key impediment to implement next-generation technology. In fact, 69% of responding companies carry so much technical debt they must use 10% of all new project spend to resolve the cost.

The value of a merger or acquisition comes from the opportunities created for the business as a whole. Unaddressed tech debt represents one of the quickest ways to diminish those potential benefits.



## Getting More from the Middle

Adding staff, avoiding upgrades, and accumulating debt are all bad options for trucking companies. Fortunately, innovation in the middle holds the advantageous option to resolve tech debt.

Trucking companies can put middleware solutions to work to unify their data exchanges. One approach uses a cloud-based integration layer that normalizes and automates the flow of data between systems with robust data mapping and translation tools.

**Three traits of this cloud-based middleware platform that work most effectively to reduce tech debt are:**

### 1 | A Universal Adaptor

Companies running older “legacy” TMS platforms often use antiquated methods to exchange data. For example, “polling” systems are used by legacy systems to send and receive text files for driver-dispatcher communications with fleet mobility systems.

Middleware can modernize these integrations to expand their breadth, stability and speed.

By speaking multiple languages, a cloud-based middleware platform connects to legacy TMS platforms and translates “polling” technology into instant, two-way messaging with fleet mobility systems through application programming interfaces (APIs).

As another example, companies that run different transportation management systems (TMS) can bring separate datasets together. They can also standardize the exchange of data between their internal systems and external applications such as ELD telematics.



In a business where every penny counts, that opportunity cost can become the most important financial burden to overcome.







“Motorcity has the capability to provide integration in a consistent manner, which I think is important. They know our industry. They came from our industry. They understand trucking, and that makes a big difference when you’re trying to integrate disparate systems.”

**Jay Delaney**  
Vice President of Technology Operations, Daeske, Inc.

## 2 | Ongoing Maintenance

Besides removing tech debt from systems, a cloud-based middleware platform can prevent its recurrence by providing ongoing maintenance of system integrations.

Working individually with software vendors to buy pre-built integrations or develop custom integrations requires large upfront costs and ongoing maintenance fees. A cloud-based middleware platform that offers integration as a service lowers upfront fees and includes continued maintenance in the monthly subscription. This will keep your systems up to date and performing at a high level.

As an example, trucking companies have to maintain integrations between their TMS and freight visibility platforms that shipper customers use. Some customers may want to receive automatic shipment tracking updates every four hours while others want status updates every 15 minutes. This variance causes trucking companies to do the same thing – sending shipment updates – in many different ways.

With so many different setups, carriers may have to adjust their TMS integrations when a freight visibility system has an update. With middleware, when vendors update their systems, the integration layer updates all the connections to save fleets time and money.

## 3 | Domain Expertise

Integrating data between transportation systems is not the kind of project that can be accomplished easily with an off-the-shelf middleware platform. It requires a platform developed by experts with specialized knowledge and experience of the problem sets in trucking and logistics systems.

No matter what situations have created tech debt in your organization, there is a way to pay it down quickly by using a modern, SaaS-based integration platform to move with greater efficiency, visibility and scalability.

[This guide on tackling tech debt was brought to you by Motorcity Systems.](#)

## About Motorcity Systems

Motorcity Systems was founded by a team of transportation industry professionals and seasoned technology and integration experts that solve problems and fill in gaps created by legacy platforms. The company helps motor carriers move away from traditional, single-sourced technologies to a varied portfolio of solutions that better fit their needs while saving time and cost. Motorcity Systems’ TORQUE cloud-based platform standardizes the data points and mapping of each integration to give companies a single source of truth across the enterprise by enabling cost-effective, scalable integrations that adapt quickly to changing business needs.

**To learn how Motorcity Systems can eliminate tech debt and expand your system capabilities visit <https://motorcity.systems/contact>**