# evTS

**Industry:**
ELECTRIC VEHICLES

## The Challenge

Based in Boston, evTS is the developer of the FireFlyESV, a compact 3-wheel electric utility vehicle that is easily maneuverable in tight urban spaces. Primarily serving government and educational institutions, evTS pivoted in 2020 to the last-mile urban delivery market for food and packages. To speed up the development of its second-generation electric vehicles, the company was seeking a cloud-based CAD and data management platform to streamline collaboration between its teams and suppliers spread across the United States and Europe.

## Results

- Onshape's real-time data management prevents version control errors, ensuring that multiple evTS teams are always working on the latest version of design.

- CAD access is extended to internal stakeholders and external partners, enabling executives to get real-time progress updates on a design.

- Requiring no server maintenance, downloads or installs, Onshape allows evTS to reinvest its IT resources elsewhere.

*"It's important to have a tool where everyone can access the information that's appropriate for their role without having to ship around large graphics files around the world and lose track of which design is the most recent version."*

– **David Solomont**, CEO of evTS, Inc.

# Eco-Friendly "FireFly" Design Delivers Agility to Government and Commercial Vehicles

*Electric vehicle manufacturer evTS values Onshape's real-time data management for improving collaboration with global suppliers*



▶ watch the video  3:41

Although they're best known for illuminating the night skies, fireflies are also physically light, nimble, and don't make a lot of noise. So the natural wonder was an apt choice for the name of the flagship product of electric vehicle pioneer evTS.

The zero-emissions FireFly®ESV is a versatile, durable compact vehicle that has a tight turning radius and is easily maneuverable in crowded urban spaces. The 3-wheeled utility vehicle, which is street legal and highway capable, has a welded steel frame with an integrated passenger safety cell and could have been alternatively named the "Chameleon" based on its adaptability to a wide range of applications.



*The modular back end of the FireFly can be changed for different purposes, including for use as a pickup truck or delivery van. The vehicle can travel up to 50 miles per hour on the highway.*

The FireFly's modular rear-bed design can be configured for numerous essential government and commercial purposes, including:

- Parking enforcement
- Security and perimeter patrols
- Parks and sidewalk maintenance
- Refuse collection
- Property and grounds management
- Food and package delivery
- Emergency and medical response
- Airport services
- Military bases
- University and corporate campuses

The surge in popularity of ordering takeout food, groceries and pharmacy items online, magnified by the global COVID-19 pandemic, motivated the company to aggressively pursue the commercial last-mile urban delivery market.

"To take advantage of that opportunity, we put a new team in place, restructured our distribution channels, and accelerated our vehicle development," says evTS founder and CEO David Solomont. "Frankly, part of that was also putting the right tools and the right infrastructure in place for the company."

## Onshape's Real-Time Data Management Tools Help Accelerate Electric Vehicle Design

To custom design its FireFly ESV utility vehicles for each target market, evTS relies on PTC's Onshape, a cloud-based product development platform that combines a robust CAD system with built-in data management and real-time collaboration tools.

One of the primary motivations for evTS to switch from their old file-based CAD system to Onshape was to streamline collaboration between its engineering teams and partners spread across the United States and the world.
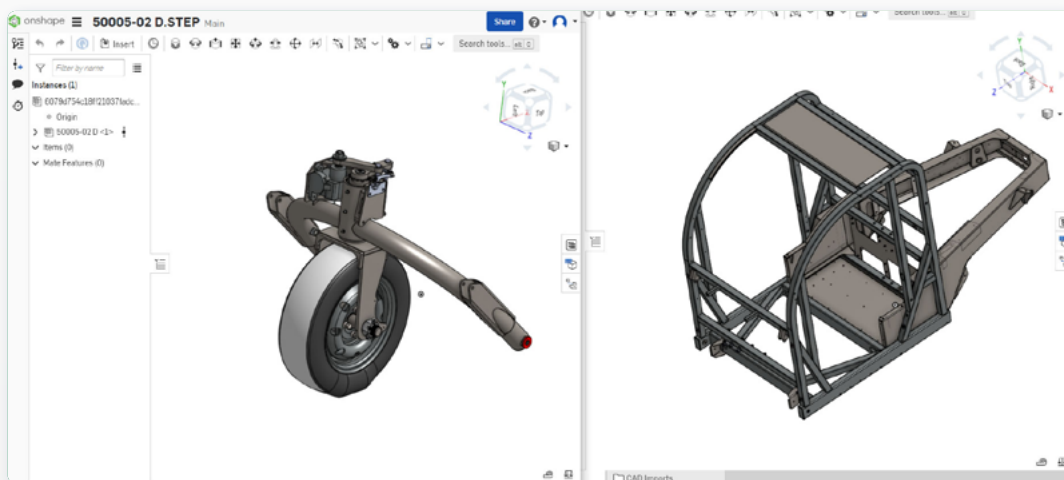


*Front steering and mainframe components of the FireFly ESV designed in Onshape.*
*The evTS development team customizes the compact electric vehicle for multiple industries.*

"I wanted a set of tools that could be used by our Research & Development Team at our Vehicle Technology Center in Texas, and Field Engineering & Service Center in Massachusetts. At the same time, we have a distribution partner in the U.K. and overseas suppliers," Solomont says. "So it's important to have a tool where everyone can access the information that's appropriate for their role without having to ship around large graphics files around the world and lose track of which design is the most recent version."

With Onshape's real-time data management, whenever one member of the product development team makes a design change, everyone else on the team can instantly see it. A comprehensive Edit History tracks who made which change and when, allowing the team to return to any prior stage of the design anytime.

Solomont, who is based in Massachusetts, also relies on Onshape to review the progress of CAD models with his Texas-based CTO, Greg Horne. Onshape easily enables up-to-the-minute design reviews anytime, extending CAD access to internal stakeholders across an organization as well as to external partners.

"The future of the industry is for sure going to be this distributed and cloud-based information sharing," Horne says. "You need this connectivity capability to communicate with all these sources from a manufacturing efficiency standpoint. So building a company using that technology is important."

## Benefits of a Software-as-a-Service (SaaS) CAD Platform



*The nimble FireFly ESV has a tight turning radius and is highly maneuverable in narrow urban spaces.*

In addition to selling the vehicles, evTS also offers clients a unique "Transportation-as-a-Service" (TaaS) subscription option inspired by the Software-as-aService (SaaS) business model.

Instead of buying a new FireFly outright, a company or municipality can choose to pay a monthly service fee that includes the vehicle, charging stations, electricity, insurance, and regular repair and maintenance costs. The TaaS model allows companies or municipalities to budget the vehicles as operating expenses instead of capital expenditures.

The arrangement is ideal for a business or government agency that needs to expand or contract its fleet based on current demands – and is a low-risk option for trying out electric vehicles without the commitment of a large upfront investment. Fleet operators quickly can add one, 50 or 500 customized vehicles on a monthly basis for as long as needed (a minimum term of one year is required).

This same flexibility, scalability, affordability and maintenance-free experience is also the bedrock of Onshape's SaaS delivery model. Companies no longer need to purchase their own servers or high-performance workstations as Onshape users benefit from the unlimited and elastic computational power of the cloud.

Requiring no license codes, maintenance, downloads or installs, Onshape has a zero-IT footprint, allowing companies to reallocate their IT resources elsewhere. New features, improvements and bug fixes are automatically added in the cloud every three weeks – everything is included in an annual subscription.

Noting the parallels between Transportation-as-a-Service and Software-as-a-Service, Solomont says that Onshape "fits our business requirements like a glove."

## Sign up for a Free Onshape Professional Trial
and experience the benefits of cloud-native product design today!

**Get Started** ⟶